

This label is your guarantee

MYSORE GOVERNMENT SANDALWOOD OIL

Distilled at Linden, New Jersey, U. S. A., by

W. J. BUSH & CO.
(INCORPORATED)

from selected Mysore heartwood [*Santalum Album Linné*]

NET WEIGHT 25 POUNDS



Sole Agents for
the United States
W. J. BUSH & CO., Inc.
New York

Sole Agents
for Canada
W. J. BUSH & CO.
(Canada) Ltd.
Montreal, Canada

Genuine Mysore Sandalwood Oil distilled from selected Mysore heartwood is recognized as the standard of quality by leading Perfumers the world over.

The delightful effect imparted by genuine Mysore oil cannot be satisfactorily duplicated by *natural* or *synthetic material* from any source.

(In original sealed and serially numbered
containers only.)

"The Oldest Essence Distillers"

W. J. BUSH & Co.

INCORPORATED

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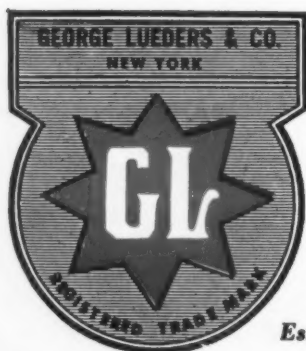
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*Our cosmetic consulting service is at your disposal
in connection with development and production problems.*

MERCK FINE CHEMICALS
for the
COSMETIC INDUSTRY



MERCK & CO., Inc.

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with all the desirable qualities of
hydroxy-citronellal and without
the latter's weaknesses.

Non-irritating

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This quality is also of great importance in white soaps and in cosmetics generally.

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When the raw materials you buy for your products are produced by **VERONA** . . .

You Get —

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for the manufacture of a moderately priced line of
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Bouquet Parisienne	Divinia	Lilac	Rose
Bouquet TB	Florida	Magnolia	Sweet Pea
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CONDENSED CHEMICAL DICTIONARY. *Compiled and edited by the Editorial Staff of the Chemical Engineering Catalog, under the editorial direction of Francis M. Turner.* Lists 18,000 chemicals and their synonyms, formulas, colors, properties, constants, specific gravities, melting and boiling points, solubility in water, ether and other solvents, preparation and ingredients, with process—indispensable for all who have occasion to work with chemical products or raw materials. 756 pp. \$12.00 postpaid.

EMULSION TECHNOLOGY, THEORETICAL AND APPLIED. *A symposium on the theory of emulsion, explaining viscosity, surface film, surface tension, solid particles, adsorption, hydration, oriented adsorption, oriented wedge and electro-kinetic theories and their contribution to various phenomena of emulsification. Special features: Anion Active Agents, Cation Active Agents, Non-Ionic Agents, and Miscellaneous Emulsifiers. List includes trade names, chemical composition, emulsion type, references, manufacturer, and recommended uses. Much data on methods of formation of practical emulsions.* 360 pp. \$6.50 postpaid.

THE ESSENTIAL OILS. VOL. I. *By Ernest Guenther.* Covers (1) The Origin and Development of the Essential Oil Industry; (2) The Chemistry and Function of Essential Oils in Plant Life; (3) The Products of Essential Oils: Methods of Distillation, Enfleurage, Maceration and Extraction with Volatile Solvents: (a) Distillation of Essential Oils, (b) Natural Flower Oils, (c) Concentrated, Terpenless and Sesquiterpenless Oils; (4) The Examination and Analysis of Essential Oils, Synthetics and Isolates. Indispensable for up-to-date information on the chemistry, production, and analysis of essential oils. 448 pp. \$6.00 postpaid.

THE LAW OF FOODS, DRUGS & COSMETICS. *By Harry A. Toulmin, Jr.* Working manual of Official Government Regulations, FDA Trade Correspondence Rulings, Official Forms and Charts. Thorough analysis of the decisions relating to: False and Misleading Advertising, Unfair Competition and Misbranding, Informative Labeling. One large volume, 1460 pp. (Will be kept up-to-date with pocket supplements for modest additional charge). \$17.50 postpaid.

INTRODUCTION TO EMULSIONS. *By George M. Suthelm.* Timely discussion of the principles, properties, methods of preparation and practical application of emulsions. Contains an extensive bibliography, and comprehensive list of emulsifying agents, the latter in table form, giving the trade names of emulsifying agents in current use, their chemical composition, the group to which they belong, the type of emulsion they help to produce, the pertinent bibliography and the manufacturer. 265 pp. \$4.75 postpaid.

PERFUMES, COSMETICS and SOAPS. *By William A. Poucher.* VOL. I—DICTIONARY. Every substance used in the manufacture of perfumes and cosmetics fully described. Vol. I puts at your command wide new resources for developing new products, and for effecting economies and improvements by choosing the best of all available materials. 440 pp. \$8.00 postpaid.

VOL. II—PRODUCTION, MANUFACTURE AND APPLICATION OF PERFUMES OF ALL TYPES. New edition covers in full the methods of production of perfumes, their chemistry, odor analysis, selection for various purposes, and compounding from various materials. Complete monographs explain all the floral perfumes, giving the botanical varieties, the odor classification, the chemical composition, practical suggestions for com-

pounding, and the best ingredients. Additional chapters give many new formulas for fancy perfumes and toilet waters. 426 pp. \$8.00 postpaid.

VOL. III—TREATISE ON COSMETICS. The best of present-day cosmetics explaining in detail how to prepare them from commonly available materials by easily applied methods. Shows how to vary perfumes and colors to obtain any desired result; warns against specific causes of defective products. Each chapter covers the many varieties of a type of cosmetics, and is loaded with representative formulae. The most comprehensive book now available on cosmetics—indispensable to everyone in the field. 228 pp. \$7.00 postpaid.

MARKETING DRUGS & COSMETICS. *By Louis Bader.* How to best introduce new products, how to get the most from advertising, how to arrange displays that sell by themselves, and a hundred other means to profitable merchandising. Directions for packaging, explaining the importance of size, shape, style, color, design and materials. Information on government regulations, price legislation, use of research sources and methods of finance. Details of trade practices, merchandising policies, discounts, sales plans, securing dealer cooperation, and ways to increase turnover and profits in the retail store. \$5.00 postpaid.

MODERN COSMETICOLOGY. *By Ralph G. Harry.* Partial contents: Emulsions, Cleaning Creams, Milks and Lotions. Acid Creams, Face Packs and Masks, Mud Creams, Vanishing Creams, Powder Creams. Lubricating Creams. Astringents and Skin Tonics. Lipstick. Make-up. Face Powders. Sunburn and Suntan Preparations. Deodorants. Depilatories. Antioxidants. Bath Preparations. Bath Oils and Emulsions. Foam Baths. Hand Creams and Lotions. Dental Preparations. Mouthwashes. Shaving Preparations. Hair Tonics and Lotions. Hair Creams and Fixatives. Permanent Waving Solutions. Hair Setting Lotions and Hair Lacquers. Hair Shampoos and Soapless Detergents. Manicure Preparations. Eye Lotions. Baby Preparations. Foot Preparations. Insect-Bite Preparations. Humectants. Acne Preparations. Coloring of Cosmetic and Toilet Preparations. 514 pp., illustrated. \$12.00 postpaid.

MODERN COSMETICS. *By E. G. Thomssen.* Contents: Cosmetic Classification, Face Powder, Creams, Lotions, Deodorants, Bath Preparations, Make-up Preparations, Rouges, Eye Preparations, Lipsticks, Suntan Preparations, Hair Preparations, Hair Waving Preparations, Shaving Media, Dentifrices, Miscellaneous Cosmetics, Perfumes, Machinery and Equipment for Cosmetics, Packaging Equipment Layout, Layout of Cosmetic Factory. 644 pp. \$8.00 postpaid.

NATURAL PERFUME MATERIALS. *By Y. R. Naves and G. Mazuyer.* Describes the raw materials used in the extraction, choice, purification and recovery of volatile solvents; the preparation of tinctures and infusions; the treatment of concretes; resins and balsams; the extraction of the aromas of fruits and distilled flower waters; the manufacture of pomade and perfumed oils by the use of vegetable and animal fats and mineral oils, properly chosen and prepared; the processes of digestion and enfleurage on solid and liquid absorbents; and the extraction of decolorized absolutes and pomades from the diffused products. Contains much information on the chemical composition and analytical examination of extraction products; and descriptions of plant and raw materials that are subjected to extraction. 355 pp., illustrated. \$6.75 postpaid.

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MORGAN, FINNEGAN & DURHAM
ATTORNEYS AT LAW
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NEW YORK 4, N. Y.

AN OPEN LETTER TO THE BEAUTY INDUSTRY

We represent Sales Affiliates, Inc. and also Evans Chemetics, Inc., and as counsel are familiar with their respective patent and sales activities. This letter is written at their request to present the facts relating to certain patent rights of Sales Affiliates and to the sale of thioglycolic acid by Evans Chemetics, Inc. The facts are as follows:

Sales Affiliates, Inc. is the owner of patent rights relating to compositions and methods of permanently waving hair with solutions of thioglycolic acid and other mercaptans. Patents have issued in a number of foreign countries. The U. S. patent application is still pending in the Patent Office. The issued foreign patents and the claims of the pending U. S. application cover solutions of thioglycolic acid and ammonia currently used for permanent waving, as well as other inventions.

Sales Affiliates has granted licenses to several companies in the United States under said patent application. It is negotiating licenses with other companies and in general has a liberal and constructive licensing policy in this field. Licenses are granted to companies regardless of the source or sources from which those licensees may purchase thioglycolic acid or other unpatented commodities. No attempt whatsoever is made by Sales Affiliates to require, to request, to suggest or to imply that its licensees purchase thioglycolic acid or other materials from any particular manufacturer or source. Not all the present licensees purchase thioglycolic acid from Evans Chemetics, Inc. Those licensees and any others who take licenses from Sales Affiliates are and always will be free to purchase materials where and from whom they wish.

Evans Chemetics, Inc. is a manufacturer of thioglycolic acid, ammonium thioglycolate and other products used in permanent waving and in the cosmetic industry. It does and will continue to sell such materials in free competition in the market. Thioglycolic acid is sold for use in hair waving solutions, depilatory compositions, and for any and all other commercial and experimental uses. Evans Chemetics sells such materials to licensees of Sales Affiliates; it also sells them just as freely to many other companies which are not licensees of Sales Affiliates. As a matter of policy which has been carefully laid down by counsel and carefully enforced by management, the personnel of Evans Chemetics has been carefully instructed to avoid any actions or suggestions that the purchase of thioglycolic acid from Evans Chemetics conveys any license rights, express or implied, from Sales Affiliates, or that there is any relation whatsoever between the purchase of materials from Evans Chemetics, Inc. and the obtaining or refusal of license rights from Sales Affiliates, Inc.

Evans Chemetics sells and will continue to sell its unpatented products on the basis of quality and merit only. As an aid to its customers Evans Chemetics does and will continue to advise them, so far as it is able, as to suitable manufacturing operations and controls for permanent waving solutions and other products. Evans Chemetics is not in position to grant any patent rights or give information concerning them; while Sales Affiliates is not in the business of making or selling chemicals. In cases where customers or prospective customers of Evans Chemetics have requested information as to the present or prospective patent situation, those inquiries have invariably been referred to Sales Affiliates and in cases of bona fide negotiations, patent counsel for the inquiring companies have been furnished with information as to the scope and status of the patent application. Regardless of the attitude or actions of the inquiring party, however, Evans Chemetics does and will continue to sell them thioglycolic acid and other unpatented materials completely independently of the patent situation.

We have asked both companies named to verify this letter so that there may be no question as to their respective positions in this matter. If this letter does not completely clarify any points about which you may have had questions, we invite your future inquiries.

Very truly yours,

MORGAN, FINNEGAN & DURHAM

By George B. Finnegan Jr.
George B. Finnegan Jr.

The statements herein pertaining to Sales Affiliates, Inc. are correct:

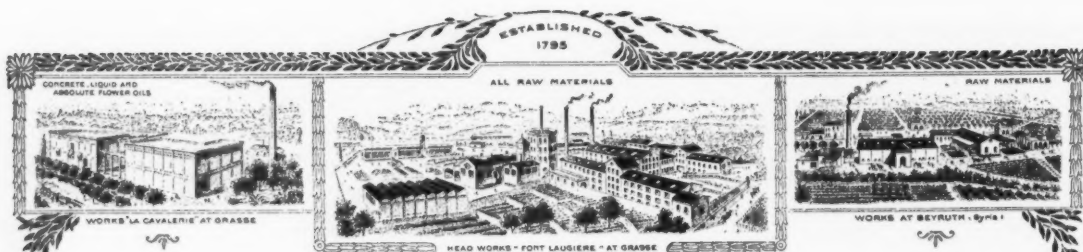
SALES AFFILIATES, INC.

By Edgar Chamberlain
Vice-President

The statements herein pertaining to Evans Chemetics, Inc. are correct:

EVANS CHEMETICS, INC.

By James Lewis
Secretary



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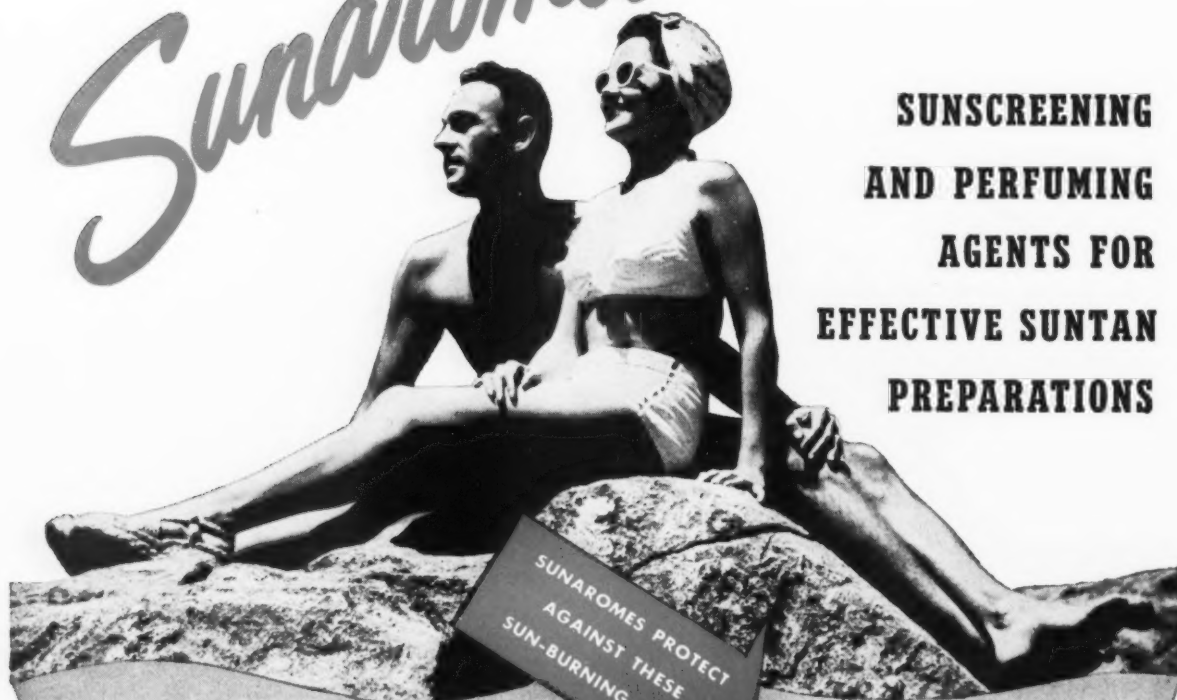
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AGAINST THESE
SUN-BURNING RAYS!

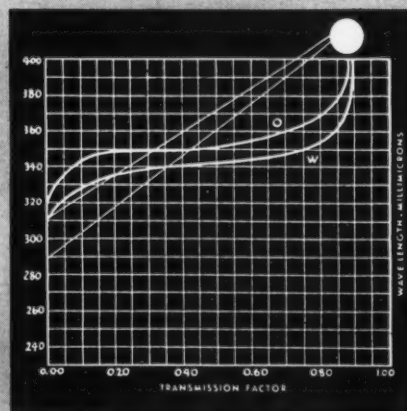
Just mix Sunaromes with the base you prefer...water-gum, water-alcohol, or even water alone. You can also use a cream base, mineral oil, fatty oil, etc. It's the Sunaromes that make them effective sun screens...and scent them so attractively. The protection is positive...and there is no problem of skin irritation.

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the subtle, provocative base that makes finest perfumes more dramatic

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The Best and Only the Best

In the 60 years since Synfleur Scientific Laboratories Inc. first opened its doors there has been an enormous growth of the American aromatic chemical industry as well as a wide multiplication of the fields in which aromatic chemicals are used.

But all of this has not only left untouched but has emphasized the basic principles on which our founder relied when in 1889 he started his business and thus incidentally laid the cornerstone of the American aromatic chemical industry.

At no time since then have we relaxed the original high and exacting standards for the manufacture of Synfleur raw materials nor have we ever ceased our incessant search for new and better aromatic chemicals likely to be useful to per-

fumers and soapmakers. As it has always been, the Synfleur label is your guarantee of highest quality. It is your assurance that we are responsible for our products *after* you buy them as well as before.

What this integrity and this skill have meant may be gathered from the fact that today Synfleur materials are used in all parts of the world where the finest products are manufactured. It is only by looking back that it is fully realized how much and how well Synfleur scientists have contributed to the development of the industries we serve.

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CONTENTS · APRIL 1949

Odor Directory

Ernest C. Crocker and Florence N. Dillon 297

120 Years Ago 302

Guest Editorial

Karl Voss 304

Stocks Cleared, Lines Shortened, Stores Ready for Promotions 306

Packaging Portfolio 312

Essential Oil and Perfumery Progress

Dr. Paul Z. Bedoukian 314

Technical Abstracts From Scientific Literature 317

Butyrates as Flavor Components

Dr. Morris B. Jacobs 318

How Spice Oleoresins Are Made

Arthur Goldman 320

REGULAR FEATURES

Desiderata—Maison G. deNavarre 293

Questions and Answers 295

Washington Panorama 326

Hints on Improving Production 328

New Products and Processes 331

The Round Table 332

Market Report 343

Prices in the New York Market 345

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Editorial Comment

More On Trade Practice Rules

The second Federal Trade Commission meeting on trade practice rules, held March 24, in Washington, D.C., was conducted in an atmosphere of calm. Only about 100 persons attended and that number dwindled before the session was ended at 3 o'clock. Most of the industry members appeared to feel that the proposed rules would be beneficial, provided they were amended. A one year trial was suggested. Almost no one was converted to the suggestions previously proposed by Philip Layton.

Is Business So Bad?

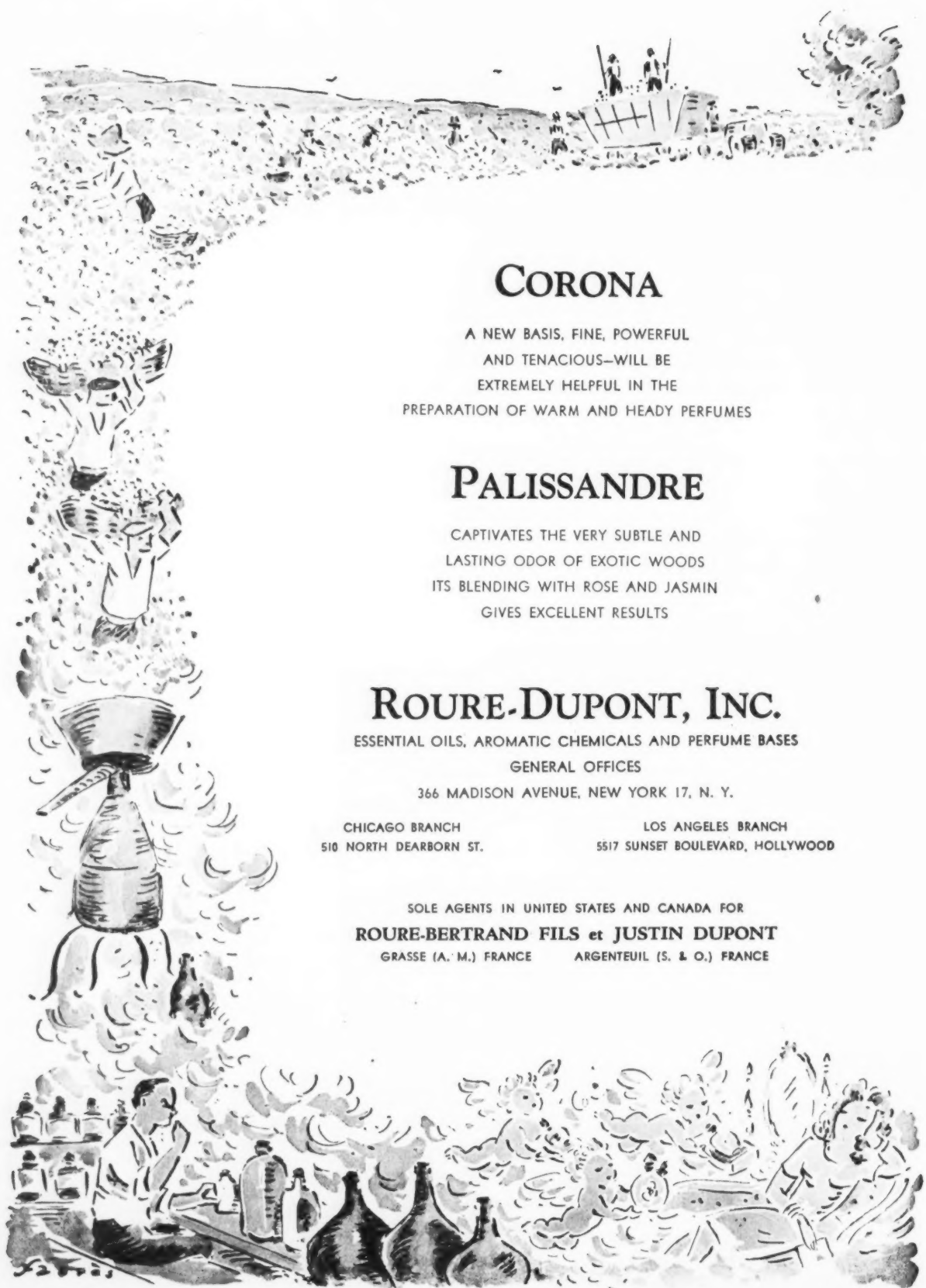
A lot of people are singing the blues about bad business. But is it so bad?

Hind sight is a pretty good compass to use in steering a business, provided it isn't short hind sight. It is perfectly true that figures are down from the lush, take-it-or-leave-it days, but just go back a little further and they are very good indeed.

The fact that manufacturers have to fight for business simply means that we have returned to a normal market. The entire world recognizes the fact that this country's economic system is founded upon open, hard competition. We've just been spoiled by easy times.

Something can be done to improve the situation, and is being done. J. L. Hudson, in Detroit, recently staged "Beauty, Perfume and You." It pulled in 35,194 people in a week. Sales figures weren't revealed but it's a good guess they were substantial. John Robert Powers introduced his line to Cincinnati through John Shillito. Powers' models participated and there were television and radio shows and pictures in the papers. Two shows a day for four days brought in 1500 women per show. Result? An estimated \$17,500 for the week.

Could it be that there isn't anything wrong with business that a lot of work won't correct.



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Desiderata

by MAISON G. DENAVARRE



M. G. DeNavarre at work in his laboratory

CARBITOL EXTERNALLY

A much needed and useful paper has just appeared in the *Arch. of Derm. & Syphilol.*, 58, 19, 1948, on the External Use of the Monoethyl Ether of Diethylene Glycol. The work originates in the Stamford University, School of Medicine. Carbitol of commerce is a combination of the monoethyl ether of diethylene glycol of approximately 70 per cent and about 30 per cent of ethylene glycol. A more pure compound contains approximately 0.2 per cent of ethylene glycol, the balance consisting of the ether of diethyleneglycol.

Dr. Meininger, author of this article, made patch tests using this substance along side of propylene glycol, ethylene glycol and diethylene glycol in various concentrations and under different conditions. To appreciate all the work done, one must see the original paper. However, the author's summary makes the statement that the material as such "does not possess high sensitizing powers for human skin" and that "absorption in human beings is not demonstrable, and is apparently negligible" when applied in amounts greater than normally found in cosmetics. As a sidelight on the test, is the interesting result obtained from the use of propylene glycol.

SOLUBLE LANOLIN

Under this heading are a number of products made by one of the leading suppliers of emulsifiers for the cosmetic industry. This company offers approximately a dozen such materials, some of which are water soluble, others dispersible in water and still others soluble in mineral oil. A

special product is used in alcoholic lotions.

Now a new supplier is making available under an *amine* designation, a material that really is a soap derived from the mixed fatty acids extracted from lanolin. It is estimated that the acidic constituents are a mixture of 32 different acids. It is a clear gel of paste-like consistency with the faint odor of lanolin and a similar color. It is intended to be added to shampoos in particular, where the effect of lanolin is desired. This can be in either the soap or the synthetic detergent type shampoo.

GROWING HAIR

A recent communication from one of our readers brings to mind the subject of growing hair. It is a problem with endless controls and unless all of them are exercised, deceiving results can be obtained.

For example it is maintained—rightly so—more often than not, that any hair growing resulting from the application of some kind of "hair grower" is due to the massage and a mechanical working of the scalp associated with the application, not from the application as such. How one would go about getting a thousand individuals with similar familiar histories, similar health and age and of like temperament, nobody knows. That would be the ideal, however, assuming equal degrees of baldness in this group, one could break it up into 10 groups of 100 each. One group would be used as a control. The remaining 9 groups could be tested with specific substances under identical conditions of application. Biopsies should be made before and after the test. An actual count of the hairs in a

given area should be made before and after. After all these things are done and the test completed, the patients should be allowed to go about their normal life for a period of time after which another hair count and if possible a biopsy could be made. By now some idea of the relative usefulness of different material could be arrived at, provided that the same kind of mechanical applicator were used in all cases and that the patients lived on the same diet during and after the test so that their blood level of unsaturates, hemoglobins, sulfur, etc. would be reasonably close together. And only in this way could you begin to unravel the problem of what will or will not work on the human scalp. For if you do not cover all of these variables, you are leaving yourself open to criticism. Chances are, however, I have left open some loopholes in just discussing the problem, let alone working on it. And brother, how much this would cost—if a thousand men answering this description could be found.

CURL CAPSULES

Looks like Norman Hillier set off a bomb under the curl capsule business in a recent bulletin released from his Long Island Laboratories.

Hillier made quite a few tests, use tests, and came to the conclusion that the capsule did little or nothing towards waving hair when used as directed and that they could cause discoloration of the hair when used in combination with a cold wave, among other things.

This column has mentioned curl

Competition Demands



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Many hurdles must be cleared to develop championship sales volume. If you package a product of semi-fluid form, you'll want the most reliable counsel you can get. This means men who have devoted an unbroken continuity of years to the constant improvement of packaging in collapsible tubes... the ideal container for your product.

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*Formerly Named New England Collapsible Tube Co.: Not to be construed as a change in ownership, management, personnel or policies.

capsules recently and on two occasions has written to one of the suppliers who has been advertising that he has laboratory tests and other data showing the usefulness and safety of the products. This supplier has never answered my letters. If such data exists, any supplier will find it to his advantage to have it published where everyone can see it. As it is, suppliers of curl capsules are making statements that other people question.

In my own mind I can see considerable trouble from the use of these products, particularly when followed by cold waves or hair dye, or if applied to dyed hair and possibly even on pillow cases.

LABORATORY ITEMS

One laboratory supply house is

bringing back the good old-fashioned porcelain tiles, size 6 x 6 x 1/4. They are a high quality, unglazed tile. The use of such tile in the laboratory need not be described because anyone acquainted with laboratory work can see the need for it immediately.

The same company is offering a stainless steel utility tray, size 8 1/2 x 6 3/4 with a depth of 1 1/2 inches. Both the porcelain tile and the utility tray are very low priced.

A melting point apparatus is offered by the same company which is essentially a metal block, electrically heated with holes for three capillary tubes, illuminated and with a magnifying glass to enable one to watch the characteristics of the substance under test. The unit is supposed to be universally applicable with a minimum of service required.

QUESTIONS AND ANSWERS

738. CREAM DEODORANT

Q: We have a perfect base, vanishing cream, that seems to be softer and smoother than anything on the market today. I understand that either aluminum sulphate and/or aluminum chloride are the proper ingredients for a good deodorant cream, along with perfume in the quantity desired. Will you please tell us the quantity of either or both to use in preparing this mix in order to be effective.

J.P.—FLORIDA

A: It is doubtful if you can use your vanishing cream base to make an antiperspirant because there is an obvious chemical incompatibility. We are sending a reprint of an article on aluminum chlorohydrate which, in our opinion, is an excellent ingredient for antiperspirants. Formulas and other data are included.

739. NAIL ENAMEL

Q: We should want to use in our nail enamel only insoluble pigment colors but we are not able to prevent them from precipitating. Could you please answer the following questions:—1) Is there some dispersion stabilizing agent that would help in this case?—2) Are there certified non-fading organic color lakes

that would neither dissolve nor precipitate.

C.M.—SWEDEN

A: One of two things may be at fault, resulting in a precipitation of color in your nail enamel.—Your pigments may not be finely enough ground before adding to the nail polish, or the viscosity of your nail polish is too low. If your pigment is fine and the viscosity is right, the only precipitation that you may get will be due to some of the heavier types of iron oxide or titanium dioxide. Other than that, there will be practically no precipitation.

740. HAIR WAVE SOLUTION

Q: We are interested in formulating a hair curling powder similar to the ones on the market which have become very popular recently. Would appreciate very much any information you care to give us with respect to the different materials and percentages used.

L.B.E.—KENTUCKY

A: It is not clear whether you are referring to the powders sold in envelopes as finger wave materials, or whether you are referring to the currently popular curl capsules.

If you want a regular sticky finger wave fluid, you want to mix about 10 per cent of borax with 90 per

cent of finest gum karaya, with suitable preservative. The directions should read that the material is to be dispersed in water and allowed to set several hours before use.

If you are interested in a curl capsule, these contain as active ingredient either ferrous or ferric iron, running from 3 1/2-7 1/2 per cent. A small amount of citric acid is included together with a surface active agent. You will have to decide on which form and salt of iron you want to use.

741. CREAM SHAMPOO

Q: We have been coloring cream shampoo with a red coal tar dye. The color stands up well in jars but in aluminum tubes we find it fades. Can you recommend a red coloring agent that will stand up in the shampoo in aluminum tubes.

C.J.—NEW YORK

A: We suggest that you try using D&C Red No. 19 or 20.

742. HAIR RINSE

Q: Just what is it in a neutral hair rinse that brings out the highlights of the hair? Does it have the same action as an acid rinse. What action does an acid rinse have on the hair?

N.S.—NEW YORK

A: The neutral cream hair rinse is a cationic compound. Hair is anionic, and, naturally, will attract the cationic material, adsorbing it on the surface, giving it a soft feel and lovely sheen. An acid rinse, on the other hand, solubilizes the insoluble metal soaps, leaving the hair stripped clean.

743. SOAPLESS SHAMPOO

Q: I am interested in the manufacture and local distribution of the new type soapless shampoos for cleaning of rugs, upholstered furniture, etc., in the home. I have in mind a product similar to "Foam-clean."

U.B.B.—ARGENTINA

A: A soapless shampoo for cleaning rugs, etc., can be made from a five to ten percent solution of wetting agents such as Duponol, Nacconol, Santomerse, Intramine, or Alrosol, among others.



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296 April, 1949

The American Perfumer

Odor Directory

*Here is a new approach to odor description, adapted
for the amateur as well as the professional perfumer
. . . Odors are defined by both odor numbers and words*

ERNEST C. CROCKER,* FLORENCE N. DILLON*

THE language of odors has always been vague and not fully descriptive of the odor sensations experienced when one sniffs an odorous substance. Among perfumers, certain terms have become common, such as fruity, flowery, woody, resinous or oriental. The connotations, however, vary with the experience of the individual. To those less trained in odors there is no way of knowing exactly what is meant by most terms, and selections of an odorant for a specific use is difficult and involves much trial and error.

This Odor Directory was developed as an aid to extending and improving the description of odors. It offers a more exact and complete method than has been possible heretofore, which is useful to both the perfumer and the technician less experienced with odorants.

The directory includes "odor numbers" for 244 aromatic chemicals, and 115 natural odorants and correlates these numbers with the definitions commonly used by perfumers. In addition, the numbers are arranged in such a way that odorants of like character and usage fall naturally into groups, thus aiding in the selection of materials of any specific type. An alphabetical index is included so that one may quickly find any listed odorant and its odor

number. The method used is such that any material not listed may be added as desired simply by finding its odor number and then including it in the appropriate numerical group.

The odor numbers given refer to the odor of presentation as determined from the bottle or from a blotter strip before appreciable evaporation takes place. In the case of aromatic chemicals, such evaporation does not alter the odor number, but with most natural materials which are blends of many ingredients, the number changes with evaporation.

Over a period of time we have noted that nearly all natural odorants and most synthetics tend to vary in odor depending on source, method of production and degree of purification. Further, many change with age. Accordingly, the Odor Directory is based upon such materials as were available from reliable dealers. All were of standard grade, less than six months old, kept in well-stoppered bottles and protected from strong light.

DETERMINATION OF ODOR NUMBERS

The odor numbers used in this Directory are based on the Crocker-Henderson system of odor classification¹

¹ Described in "Flavor" by E. C. Crocker, McGraw-Hill Book Co., 1945.

* Arthur D. Little, Inc., Cambridge 42, Mass.

which assumes that there are four components to every odor, namely: fragrant, acid, burnt and caprylic. Each component is measurable in eight degrees of intensity. Therefore, every odor can be defined by a four-digit number, wherein each digit indicates the intensity of the component it represents.

A set of odor standards² is available which consists of suitable materials that exemplify the eight degrees of intensity for each of the four components. The individual materials were selected because in each case the intensity of one of the four components could satisfactorily be used as a standard.

An odor may be compared with the odors of the standards until a match is found for the intensity of each component. Advantage is taken of the fact that nearly everyone can concentrate on a single odor component at a time, momentarily oblivious to the other three. The result of this odor comparison work is a 4-digit number that, even on first determination, is reasonably accurate.

When all materials for the Directory had been given tentative numbers, the bottles containing them were arranged on a large table according to burnt versus caprylic numbers³ for intercomparison, to increase the accuracy of the original determinations. Here all the -23, -45, -66, etc. numbered odorants were checked, one against the other, and burnt or caprylic figures were changed when found in error. Next, fragrant versus acid values were checked in like manner, and then fragrant versus caprylic. Odorants having the same values of acid, burnt, and caprylic, and with fragrant the only variable, were then placed in groups for final comparison. Each component was thereby examined several times. Such cross-checking helped eliminate original errors of numbering which may arise due to olfactory fatigue or other causes.

Our odor numbering may not be the same as other workers will obtain. Since this directory is a first presentation, some disagreements are almost inescapable. However, within the limitations of a single apparently representative specimen of each odorant and only two workers, we have tried to assign numbers representing the odor itself, unprejudiced by such considerations as chemical constitution, name, or customary end-use of the various odorants.

CONTENTS OF ODOR DIRECTORY

The first section of the directory is a numerical sequence of the materials studied, with word descriptions of the odors and their usage. The second section is an index listing the aromatic chemicals and natural odorants alphabetically with their odor numbers.

The numerical listing should prove to be most practical and useful to anyone dealing with odorous materials. Because the caprylic component asserts the greatest influence in determining odor types, it was selected as the first differentiator in dividing the numbers into sections, wherein the odorants would be the most nearly alike. Each caprylic section presents successive degrees of burnt with further subdivision into groups with the same acid values. These units with three components alike are finally arranged according to increasing fragrance.

² Available from Cargille Scientific Inc., 118 Liberty St., New York 6, N. Y.
³ Method described in more detail in "Odor in Flavor" by E. C. Crocker, in *Proceedings of Flavoring Extract Mfrs' Assn.*, U.S.A., May 26-28, 1947, pages 72-74.

In caprylic I are materials which have weak odors and often are used as diluents. Those in Caprylic II are mainly floral modifiers, some having mildly fruity notes in addition. In Caprylic III are floral modifiers with citrusy character. Caprylic IV includes many of the heavier odorants used in rose and floral bouquets and in the modern and oriental types. Caprylic V materials are used especially in orange blossom and Concord grade types and include also the "green" notes found in leaves and wood. Caprylic VI materials have camphoraceous and mentholic notes predominating, while those in Caprylic VII are of the fatty alcohol and aldehyde types, and the bitter-herb materials used mainly in flavoring. Caprylic VIII, as would be expected, includes strongly unpleasant and animal-like odors, which are generally used only in traces because of their intensity.

INTERPRETATION OF ODOR NUMBERS

Odor numbers provide a means of description applicable to all odors. Knowing the contribution made by each individual component toward determining the types, one can anticipate the odor from the odor number.

Further study of the numerical section shows that fragrance generally lends pleasantness to odor. In the middle ranges it tends toward floweriness and in the highest intensities may be heavy and even cloying. Acid gives "push" and makes an odor more aggressive. As the intensity of acid increases, the odor at first is mildly fruity, then is citral-like, and finally is sharp and irritating. Burnt determines woodiness in an odor but in the highest ranges reaches "empyreumatic." Caprylic has varying influence on the character of an odor. With low caprylic, pleasantness is noticeable. With increasing intensity of caprylic, the odor becomes successively musty, earthy, camphoraceous, rancid, and animal-like.

To illustrate the method of interpreting an odor number let us take 7532 and examine each component for its influence on the odor as a whole. The 7 fragrance indicates a flowery note, and the 5 acid shows a fruity character. With two moderately high numbers the odor should be rather intense. The 3 burnt shows woodiness and the 2 caprylic indicates a pleasant odor. On assembling these impressions we arrive at a moderately intense floral, fruity odor, which should be suitable for modifying floral bouquets, especially jasmin and rose types. In the numerical index, 7532 is the odor number of Citronellyl Propionate, which actually has these characteristics.

As a second illustration, take the number 8674, which is that of Oil of Labdanum. The 8 indicates strong fragrance, while 6 acid is sharp and somewhat penetrating. The 7 burnt tends toward empyreumatic and the 4 caprylic shows some mustiness which with the high burnt is strongly resinous. The combination indicates a heavy, penetrating resinous odor. Since most of the digits are high, a powerful odor is indicated.

In any section, as each of the digits increases the corresponding odors become more powerful and the materials should be used in smaller amounts. By comparing a group in one caprylic section with a similar group in a higher caprylic section, we find, as would be expected, that the higher section is composed of odorants which are more powerful than those in the lower and must be used more sparingly. This does not necessarily mean that an odorant from a higher section can be substituted

in a smaller amount for one in a lower section with the same final results, since the odor characteristics change too distinctly from section to section for this to be general. To a great extent, however, substitution within any section may be feasible and often is very practical from the standpoint of cost of the finished article.

UTILIZATION OF ODOR DIRECTORY

We have found that the Odor Directory may be used to identify puzzling odors, and to find alternatives or modifiers for odorants now in use. It can be an aid in selecting materials for producing particular odor effects. A unique feature is that interrelationship of odor types becomes apparent, and means for modifying types become evident.

Odor numbers may be used to establish quality standards for materials, so that any chemical not having an odor number within specification limits can be rejected as unsatisfactory for the particular use in question. They may also be used in production control, by specifying limits within which the various components must fall.

The odor standards were developed for use with odors well above threshold in intensity. With present techniques, the standards are not directly useful for very weak odors such as those of water, air, or paper, therefore such odors cannot be included in this directory.



Old Roman tower and church spire, seen in Grasse, flower city of the world, where so many of the essential oils are produced.

Odor numbers, which encompass all true odor components, cannot define any *feeling* sensations which may accompany odor. One example of feeling is the pungency or pain characteristic of ammonia, formaldehyde, spices and some herbs, another is the cooling of menthol or peppermint.

Many uses for this Odor Directory will occur to the resourceful operator as he works with it, and wide application to various odor problems is foreseen, including the design of perfumes.

Odor Directory Part I—Numerical Sequence CAPRYLIC I

Odor Number	Material	Application
3111	Benzyl Benzoate	Almost odorless; solvent and fixative, especially for artificial musk.
3211	Diethyl Phthalate	Almost odorless; solvent and fixative, especially for artificial musk.
4211	Dimethyl Phthalate	Almost odorless; solvent and fixative, especially for artificial musk.

CAPRYLIC II

Odor Number	Material	Application
3112	Anisic Acid	Mild, slightly rosy; sweetener and blender, especially for lily and lilac.
4112	Phenylethyl Phenylacetate	Sweet mild rosy; a floral blender.
3212	Anisyl Formate	Mild floral; used in heliotrope, tuberose, etc.
4212	Anisyl Alcohol	Mild floral; used as a blender for floral types.
6212	Hydroxycitronellal	Slightly musty, fruity, floral; used as a base for lily, lilac, etc.
5312	Dimethyl Acetal Phenylethyl Propionate	Slightly fruity; used as a modifier for rose and other floral types.
4412	Farnesol	Slightly fruity, rosey; used as a blender for rose and other floral types.
5322	Phenylethyl Acetate	Fruity, peach-like; used in rose, jasmine, hyacinth, etc.
6322	Cyclamen Alcohol	Resembles lily, violet and hyacinth; used in perfumes of these and other floral types.
6422	Cyclamen Propionate	Slightly more fruity than the alcohol; used in floral compounds such as rose, lily, lilac, violet, etc.
5522	Phenylethyl Isobutyrate	Fruity, rose-like; used in floral compounds.
6522	Phenylethyl Butyrate	Fruity, rose-like; used in floral compounds.
6622	Cyclamen Butyrate	Fruity, rose-like; used in floral compounds.
7232	Methyl Ionone	Mild, sweet, floral; used in violet and other floral bouquets.
4332	Santalal Acetate	Rosey; floral blender for rose, and other floral types.
6332	Rhodinyl Phenylacetate	Rose de Mai type; used in floral compounds.
7332	Rhodinyl Butyrate	Moss rose type; used in floral compounds.
5432	Aldehyde C-16	Fruity, floral; used as a flavor and in floral compounds.
6432	Citronellyl Acetate	Fruity; used in rose, carnations, and other floral compounds.
7432	Rhodinyl Isobutyrate	Fruity, rosey; used in rose and other floral compounds.
5532	Neryl Acetate	Floral, fruity; used in rose, jasmine, etc.
6532	Citronellyl Butyrate	Fruity, rosey; used in rose, jasmine, etc.
7532	Citronellyl Propionate	Fruity, rosey; used in rose, jasmine, etc.
5632	Geranyl Propionate	Fruity; used in rose, jasmine, etc.
6342	Linalyl Isobutyrate	Fruity, woody floral; used with lavender, and in jasmine, lilac, etc.

CAPRYLIC III

Odor Number	Material	Application
6113	Vanillin	Slightly musty, fragrant; used as a sweetener and blender for flavors and for perfumes.
6123	Ethyl Vanillin	Slightly musty, fragrant; used as a sweetener and blender for perfumes and for flavors.
7123	Musk Ketone	Smooth musky; the nicest of the artificial musks, used as a sweetener, blender and fixative in perfumes.
2223	Acetate C-12	Mild fruity; blends with most floral notes.
4223	Benzyl Alcohol	Mild fruity; used in jasmine, and other floral compounds.
7223	Oil Peppermint, distilled	Fragrant, minty, slightly fruity; used mainly in flavors. In perfumes for its cooling effect and its fragrance.
8223	Methyl Salicylate	Fragrant, minty, fruity; used mainly

3323	Nerolidol	In flavors. In perfumes, used for its fragrant top notes, in cassie, tuberose, chypre, etc.	5443	Oil Mandarin	Woody, citrus, tangerine-like; used mainly in flavors. In perfumery for its citrus notes.
4323	Anisyl Acetate	Mild floral, lily-like; used as a blender for floral compounds.	6443	Citronellyl Phenylacetate	Floral, citrus, woody; used in jasmin, rose, etc.
5323	Anisic Aldehyde (Aubepine)	Sweet odor of hawthorn; used in lilac, cassie, heliotrope, etc.	7443	Geraniol Palmarosa	Rosey, citrus, woody; used in floral bouquets.
7323	Ethyl Aubepine		8443	Neral	Sweet, rose, neroli-like; used in orange blossom, rose, etc.
	Oil Anise, Russian	Heavy, fruity, floral, anethol-like; used mainly in flavors. Somewhat in perfumes as a sweetener.	5543	Rhodinyl Acetate	Red rose type; used in all rose bouquets.
3423	Phenyl Cresyl Oxide	Suggestive of narcissus and rose; used in floral compounds.	6543	Linalyl Benzoate	Heavy, resembling broom and tuberose; used in these and in oriental types.
4423	Cinnamic Alcohol	Hyacinth-like; used as a fixative for hyacinth, lilac, lily, rose, jasmin, etc.	7543	Cyclogeraniol	Heavy, rosey; used in floral compounds.
5423	Geranyl Acetate	Fragrant, suggestive of rose and lavender; used in rose, jasmin, lavender, etc.	6643	Oil Lemon, California	Heavy, citrus; used in flavors and in some perfumes.
6423	Cinnamyl Acetate	Soft, sweet, rosey; used in rose, jasmin, and other floral compounds.	7643	Jasmin absolute	Sharp, citrus, floral, woody; used in almost all types of perfumes.
8423	Oil Ylang Ylang, Bourbon	Powerful, slightly fruity, floral; used in lilac, violet, oriental, and many floral compounds.	7743	Rhodinyl Formate	Powerful red rose type; used in all types of perfumes especially carnation.
4523	Anisyl Propionate	Fruity, floral; used in jasmin and other floral compounds.	7253	α -Ionone	Woody, orris, violet-like; used in all violet perfumes.
5523	Benzyl Acetate	Fruity, jasmin-like; used in jasmin, tuberose, etc.	5353	Terpinyl Acetate	Bergamot and lavender-like; used in lavender and cologne types.
6523	Isobutyl Phenylacetate	Fruity, floral; used as a modifier for tuberose, rose, carnation, etc.	7353	β -Ionone	Slightly more fruity than the α -form; used in the same way.
3623	Hexyl Butyrate	Fruity; modifier for floral compounds.	5653	Dimethyl Benzyl Carbinyl Acetate	Woody, hyacinth-like; used in hyacinth and lilac types.
5623	Benzyl Propionate	Fruity; used in jasmin, etc.	6263	Isocitronellyl Acetate	Fruity, woody; somewhat like ionone.
6623	Geranyl Butyrate	Fruity, rosey; used in rose, jasmin, etc.	7563	Oil Clove	Spicy, fruity, woody; used in flavors; and in oriental and spicy perfumes.
7623	Benzyl Butyrate	Heavy, fruity; modifier for jasmin.			
6723	Hexyl Cinnamic Aldehyde	Fruity, jasmin-like; used in the same way as amyl cinnamic aldehyde.	7473	Oil Nutmeg	Spicy, fruity, woody; used in flavors and in oriental perfumes.
7723	Amyl Crotonyl Acetate	Fruity, jasmin-like; used in jasmin compounds.			
7823	Allyl Caproate	Fruity, pineapple-like; used mainly in flavors.			
4333	Phenylethyl Dimethyl Carbinol (Centifol)	Floral, citrusy; used in jasmin compounds.			
5333	Oil Grapefruit	Floral, citrusy; used mainly in flavors. Blends with verbena, lemon, gardenia, chypre, etc.			
6333	Oil Orange, Sweet California	Floral, citrusy; used mainly in flavors, and in perfumes for its orangey notes.			
7333	Oil Lime, distilled	Floral, citrusy; used mainly in flavors. In perfumes for its citrus character.			
4433	Oil Curacao Peel	A variety of orange; used mainly in flavors.			
6433	Oil Bergamot	Floral, orange; used in almost all floral types and in many oriental blends.			
5533	Oil Lemon, Messina	Italian lemon oil, used mainly in flavors. A smoother odor than the California lemon.			
2633	Hexyl Caproate	Sharp citrus, but weak and not very useful.			
3633	Hexyl Propionate	Sharp citrus, but weak and not very useful.			
5633	Hexyl Acetate	Sharp citrus, but not very useful.			
6633	Tolyl Acetate	Sharp, fruity; used in jasmin, lilac and tuberose.			
7633	m-Tolyl Carbinyl Acetate	About like tolal acetate in odor and use.			
8633	Oil Verbena	Heavy citrus, very fragrant and powerful; used in many floral bouquets.			
7733	Citral	Sharp, lemony; used in most citrus blends.			
7833	Amyl Cinnamic Aldehyde	Powerful, heavy, sharp; used in jasmin, lilac, etc.			
4343	Phenylethyl Dimethyl Carbinyl Acetate	Floral, rosey; used in rose, etc.			
6343	Linalyl Acetate	Fruity, floral; woody; used in jasmin, oriental, gardenia, etc.			
7343	Terpinyl Propionate	Woody, fruity, floral; used in lavender compounds.			
4443	Oil Bitter Orange	Slightly more woody than the sweet orange; used in floral and oriental types, but mainly in flavors.			

CAPRYLIC IV

Odor Number	Material	Application
5114	Coumarin	Resembles new mown hay; used in this and in lavender, fougère, chypre, etc., as a sweetener and intensifier. Also used in flavors.
6114	3-Methyl Coumarin	Slightly heavier odor than coumarin; used about the same way.
6214	Methyl Naphthyl Ketone	Musty, orangey; used as a fixative for orange flower types.
7214	Furanacrolein	Musty, orangey; used in rose and orange flower types.
4314	Phenylethyl Salicylate	Faint, but lasting rose-hyacinth type; used in floral compounds as a fixative.
6314	Benzyl Isoeugenol	Faint, carnation-like; used as a fixative, especially for violet compounds.
3124	Phenyl Benzoate	Mild, musky; used as a fixative.
7124	Musk Ambrette	Musky, aromatic; the most powerful of the musks, used as an intensifier and fixative in many fine perfumes.
8124	Heliotropin	Heliotrope-like; used in lilac, carnation, sweet pea, etc., for lasting sweetness; a fixative.
2224	Cyclohexyl Cinnamate	Mild, slightly balsamic; used somewhat in floral and oriental types.
5224	Phenylethyl Alcohol	Honey-rose; used in rose, neroli, orange-blossom, jasmin, etc.
6224	Cinnamic Acid	Heavy, balsamic, vanilla-like; used as a fixative for oriental types.
7224	Benzoin Siam, resin	Heavy, sweet, somewhat balsamic and vanilla-like; used as a fixative for oriental types.
8224	Oil Sweet Birch	Slightly more musty and woody than methyl salicylate; used in about the same way.
4324	Santalyl Phenylacetate	Honey, floral; used as a fixative in floral and oriental types.
5324	Hydroxycitronellal	Floral, slightly musty; used in muguet, lilac, hyacinth, etc.

6324	Anethol	Heavy, musty, fruity, floral; used mainly in flavors.
7324	Acetanisol	Sweet, musty, floral; used in fougere, trèfle, mimosa, etc.
8324	Cinnamyl Cinnamate	Sweet, balsamic; used in heavy and oriental perfumes.
4424	Geranyl Benzoate	Sweet, soft-rose; useful in rose compounds.
6424	Cyclamen Aldehyde	Floral; used in muguet and cyclamen compounds.
7424	Oil Lavender, 38-40 per cent	A slightly low ester content not quite as powerful a lavender.
8424	Oil Lavender, 50-52 per cent	Woody, floral, minty; used in many floral compounds.
6524	Acetyl Isoeugenol	Spicy, sharp; used in new mown hay, carnation, and other spicy compounds.
8524	Oil Cananga	Similar to Ylang Ylang, but much cruder, used in soaps, etc.
6624	Linalyl Cinnamate	Spicy, heavy, lily, jasmin-like; used in jasmin, tuberose and rose compounds.
7624	Isoeugenol	Spicy, sharp, heavy; used in carnation and oriental compounds.
8624	Cyclohexyl Butyrate	Heavy, jasmin-like, spicy; used in jasmin, rose, oriental, etc.
5234	Isobutyl Cinnamate	Soft amber type; used in modern and oriental bouquets.
6234	Balsam, Peru	Resin Honeysweet, balsamic, used in floral and oriental types.
7234	Bois de Rose, Brazilian, South	Reminiscent of rose, orange and mignonette; used in floral perfumes.
6334	Isobornyl Propionate	Woody, piney; used in lavender and woody compounds.
7234	Balsam Tolu, resin	Woody, balsamic, piney; used as a fixative for floral compounds, especially lilac.
8334	Tuberyl Acetate	Heavy, resembles tuberose; used in heavy, floral and oriental types.
6434	Oil Cabreuva	Woody, nutty, with a slight violet character.
7434	Aldehyde C-18	Coconut-like; used in flavors; and gardenia and tuberose perfumes.
8434	Tuberis Alcohol	Heavy, floral, nutty; used in tuberose compounds.
6534	Linalyl Propionate	Fruity, floral, woody; used in lavender, rose and lilac.
5634	Geranyl Phenylacetate	Sharp, fruity, rosey, woody; used in floral bouquets.
6634	Terpinyl Butyrate	Sharp, fruity, rosey, woody; used in floral bouquets.
7634	Linalyl Butyrate	Sharp, fruity, floral, woody, rosey; used in floral bouquets.
5734	Isopulegyl Acetate	Sweet, sharp, slightly minty; used in lavender compounds.
6734	Geranyl Formate	Sharp, rose leaf type; used in rose and orange blossom compounds.
7734	Amyl Cinnamic Aldehyde Dimethyl Acetal	Jasmin-like; a smoother note than amyl cinnamic aldehyde for jasmin compounds.
3244	Cedrene	Mild cedarwood; used in woody compounds.
4244	Cedrol	Mild cedarwood; used in woody compounds.
5244	Bornyl Acetate	Pine needle type; used in woody compounds, disinfectants, and flavors.
7244	Oil Serpolet	Smooth, piney; used in woody or piney compounds.
4344	Santalal	Sweet, mild, sandalwood odor, used in rose, violet, and oriental compounds.
6344	Oil Copaiba	Musty, woody; used in heavy and oriental compounds.
5444	Oil Cedarwood	Mild, woody, spicy; used as a fixative for woody, heavy compounds.
6444	Oil Sandalwood	Sweet, musty, woody; used in all heavy types, especially in oriental compounds.
8444	Rose Otto, Kazanlik	True rose otto; used for finishing touches in many of the better floral and oriental compounds.
8544	Rose absolute	Woody, rose; used in many fine perfumes for finishing touches.

8644	Oil Cinnamon, Ceylon	Heavy, spicy, very smooth; used mainly in flavors; and for the better spicy perfumes.
5254	Vetiveryl Acetate	Resembles vetiver but is milder; pronounced woody character; used in modern bouquets.
8254	Oil Amyris Balsamifera	Source of West Indian Sandalwood; stronger, cruder; used about the same way.
6354	Oil Pine Needle	Musty, woody, piney; used in woody, piney types and especially in disinfectants.
7454	Oak Moss, resin	Heavy, woody, musty; used as a fixative in many modern and oriental types.
7654	Cinnamic Aldehyde	The main constituent of oil cassia and cinnamon, somewhat cruder; used in flavors and perfumes where smoothness is not required.
8654	Oil Cassia	A crude cinnamon; used in flavors and perfumes as is cinnamic aldehyde.
8754	Oil Camomile	Sharp, citrus odor with smooth, woody tones; used mainly as a flavor but imparts interesting effects to the heavier type perfumes.



A universally acceptable theory of odor perception, covering all component factors, has never been successfully developed.

5264	Myrrh, resin	Heavy, balsamic, somewhat like incense; used as a fixative in modern, French, and oriental types, also as an incense.
5464	Olibanum, resin	Soft, incense-like; used in oriental and French types, as a fixative; and in incense.
6464	Labdanum, resin	Balsamic, heavy, woody, resinous; used in many fancy perfumes of the heavier types, as a fixative.
5564	Oil Vetiver, Haiti	A somewhat less powerful vetiver than the Bourbon variety.
7564	Oil Vetiver, Bourbon	Heavy, resinous, woody; used as a fixative in many perfumes, especially modern and oriental types.
4174	Oil Myrrh	Resinous, aromatic, balsamic, incense-like; used in heavy, oriental, and modern types, as a fixative and in incense.

(To be continued in May issue)



IN 1828, Pierre Francois Pascal Guerlain founded his perfumery shop in the Rue de Rivoli, a street which was as yet embryonic and whose majestic lines were not to reach their full development till the 2nd Empire, though Meurice was already setting up his hotel there. A factory in the open country not far from the Place de l'Etoile was developing the scents and powders so soon to have conferred on them the approbation of people of good taste.

120 Years Ago

Moreover, soon afterwards, in 1844, the founder of the firm stole a march, so to speak, on Haussman's planning in his anxiety to choose ever the most fashionable districts for his creation, and moved his household goods to the Rue de la Paix. This was the only important street near the boulevards; for at that time there existed neither the Rue Auber, nor the Rue du Quatre-Septembre, nor the Avenue de l'Opéra. It was there that for eighty years the windows of Guerlain made elegant women stop on their way; while the factory moved from the Etoile to Colombes, later moving to Bécon-les-Bruyères where the terrible bombardment of 1943 put it to such a severe test.

However, Pierre Francois Pascal pursued his research and his experiments and achieved a series of master

strokes. As early as 1850, he presented Parisian ladies with "Baume de la Ferté" and "Lotion de Guerlain" with which they were immediately enchanted and which have never ceased to be in vogue. Thereupon he became the accredited purveyor to the Empress and this, naturally, brought him the favour of her brilliant court of pretty women. Then he created for Eugenie "L'Eau de Cologne Impériale" and this, after winning the favour of the Empress of the French, later won that of the smartest men in the world.

Now, from the year 1861, the forebear of the Guerlains had taken into partnership Aimé, his eldest son, who was to be the founder of the Syndicat de la Parfumerie. Three years later, he took as partner also his second son Gabriel.

In the end, Gabriel alone took over the direction of the firm and held it till his death in 1933. It was he who, thanks to his exceptional gifts and unusual merits—energy, capacity for work, clear business head—developed the Parfumerie Guerlain to its full scope.

He, in his turn, associated with himself his two sons, Pierre and Jacques, as soon as they attained their majority. And these two both carry on the effort of their father and their family with an untiring will to create which has produced a magnificent collection of perfumes: "L'Heure Bleue," "Mitsouko," "Shalimar," "Liu," "Vol de Nuit," to mention only a few; and to a whole series of lipsticks and beauty preparations which are equally well known. Both of them, too, have now brought their chil-





dren to share the responsibility of their heavy charge and they have specially entrusted them with the task of re-establishing Guerlain's network of foreign agencies and recovering the means of production which were so hardly hit by the war.

Thus, in a little over a century, four generations have succeeded each other at the head of the Parfumerie Guerlain, a dynasty indeed, upholding the prestige of its name by its unswerving loyalty to its own principles of careful workmanship and faultless presentation.

First as to the quality of the products. It is there above all that a persevering diligence has proved its value in that it has raised the quality of its production to a high standard and guaranteed its level by a long series of repeated experiments, handed on from father to son, each of which confirms the value and brings improvement to the outcome of the others.

By this method has the gradual selection of raw materials been made. Before any purchases are made, a rigorous examination is carried out by a member of the family whose special task it is, and the suppliers know this and respect it. Indeed, some of the essences, those of prime importance, are actually manufactured in the laboratories and distilleries attached to the factory.

Similarly, another member of the family has the exclusive privilege of preparing the perfumes, and he in his turn checks the raw materials and guards the secret of the formulae so that they become from that moment a part, as it were, of the family property.



This also accounts for the ever-increasing technical knowledge of the heads of the family, their patiently acquired intimacy with their art, and their creative power. Their uninterrupted inheritance of learning gives them the best possible chances of success in their ceaseless quest for improvement, and no consideration for the cost price of their goods is allowed to impede them in their striving after the best.

This is how Guerlain perfumes have acquired their particular character, a special bouquet, as one says of great wines, and a style which is really their own. They are remarkable for the perfect fusion of their elements; and this is due chiefly to the high quality of the basic ingredients which contain nothing but natural products whose perfume persists long after the first vapours have evaporated. These personal characteristics can be discerned in a wide variety of creation, for, needless to say, Guerlain does not allow his methods to lead to uniformity or monotony. On the contrary, in no other house are the harmonies of a combination so well attuned or the innumerable key changes of synthesis better rung. No other house can so pride itself on its fertility of invention.

The September 1948 issue of Industrie de la Parfumerie, Paris, France, devoted its entire editorial content to the story of the firm of Guerlain. A condensed portion of that part covering the company growth is here reproduced.



The members of the Guerlain family invent the forms in which their perfumes are packaged. How well they have succeeded is shown here. Also reproduced are some of the Guerlain salons. They reflect exquisite taste.



Karl Voss

Throughout the perfume and its closely allied industries, Karl Voss is probably the best known man in the paper box industry. He has been associated with that industry since 1912; and is credited generally with having contributed more artistry to the creation of fine paper box packaging than any other man in the United States. For that reason as well as for his thorough knowledge of all branches of paper box manufacturing and his familiarity with the toiletries business, his advice is sought and respected by leaders in the industry. The suggestions Mr. Voss makes as to how the influence of the container may be employed to build up toiletries sales are timely and worthy of careful consideration.

His intimate knowledge of the manufacture of paper boxes began when he entered the factory of William Buedingen & Son, Rochester, N.Y. where he worked for several years before coming to New York in 1912 as metropolitan representative for the company.

Sensing the growing demand for finer paper boxes Mr. Voss established the Karl Voss Corporation on January 1, 1924. The plant and offices were located in Long Island City and the company began business with a staff of 25

Get Back to

How containers reflecting the worth

AS each new and finer essence was created by the perfumer throughout the years, he sought to complement it with a container which might fully reflect the worth of such fragrances. Thus by the individuality and distinctiveness of his container he expressed the personality by which his product was to be known and accepted.

This subtle appeal can rightly be credited with much of the increasing interest in perfumes and can likewise be said to have influenced the not too modest yearly growth of the industry up to ten years ago. Then in a period of phenomenal expansion the industry prospered,

making hand made paper boxes for the perfume and cosmetic industry. The company prospered and by December of its first year was forced to move to new and larger quarters in the Lipton building, Hoboken, N.J. where it remained until it moved to its present location in 1932. The company supplies machine and fine hand made paper boxes to meet the needs of all types of customers.

Throughout his business career Mr. Voss has kept in intimate touch with the perfumers and cosmetic manufacturers he serves, familiarizing himself with their packaging problems particularly and also with the problems of the industry. In the early twenties he was secretary of the old Perfumery, Soap and Allied Industries, an organization which met monthly to discuss trade problems. Mr. Voss has also served as a member of the Convention Committee of the Toilet Goods Association and its predecessor associations for many years. He is now chairman of the Convention Committee of the Toilet Goods Association, a task which calls for the employment of the executive ability with which he is richly endowed.

First Principles In Packaging

of the contents influenced the growth of the industry and why they may do so again

demand exceeded supply and emphasis was placed on production in quantity without regard for future development, so that today we are faced with the unpleasant fact that very little new in the way of products and packages are available. The ingenuity of an industry seems to have been lost in the process and much of the so called new is just a rehash of the old.

The use of perfumes and cosmetics has become a daily necessity to the American woman's way of life, now adding up to a tremendous volume. To maintain those sales and to further increase them calls for more of the same ingenuity responsible for the past progress of the industry.

There is also a considerable total of the yearly consumption which must be classified as gift buying. This latter being of such proportion, serious consideration should be given to the effect good packaging will have on these gift buyers. To attempt, in the face of present day buyer psychology, to cheapen packages by over-simplification or poor substitution, could very well be a costly experiment. The logical result of such forced economy might be gift buying of other and more attractive merchandise to the detriment of perfume and cosmetic sales.

Change in design and construction, however, may actually result in the improvement of a package, sometimes at a lower cost. Consideration of the correct package for a given item must depend somewhat on factors peculiar to the method of operation and policies of the individual toilet goods manufacturer which, therefore, establish to a degree the price range within which the package must be produced. Nevertheless, there are those principles which can, in a broad sense, be said to apply

to almost every package in practically every instance.

The package must be of suitable size and construction to properly contain and protect the contents for which it is designed. It may be of conventional or odd shape, whichever is best suited for the product, but in any event, there should be some logical reason for its selection.

Decorative design must express the feeling of completeness and finesse to suggest to the consumer the idea of quality and to reflect the personality of its maker. The materials utilized in carrying out the design, whether in the form of ornaments, colored papers, printed or lithographed wraps, or fabrics and their substitutes, should emphasize these points. Use of expensive materials as such does not necessarily make for the best package. The successful use of any materials depends on their treatment and how they are utilized.

The reuse value a package may have is debatable, in any event it is an error to sacrifice the functional purpose and sales appearance for any consideration of its reuse.

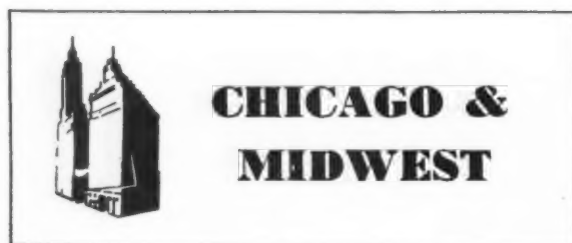
In the design and construction of the proposed package thought must also be given to the degree of permanence required and how this affects the ultimate cost of the product. Type of package varies from a one time use for an item purchased and immediately removed from the box, to a continued use until the contents have been consumed.

Construction and design should be of such nature as to permit final assembly or packing at a minimum cost.

Careful analysis of the problem as it affects the toilet goods manufacturer should make possible a solution by which an improved standard can be established and ways still found to keep package costs at a fair level.

Stocks Cleared, Lines Shortened,

National coverage at merchandising levels in depart-



Drug Chains Pushing Private Label Lines

WAR weariness, Spring fever and general indifference is combined as a unit by buyers as one reason that cosmetic sales lag. "It has been so long since the girls really had to make a book," said a buyer, "that even the girls who did before the war are now just as lax and indifferent as the new recruits to the department."

"If we could just find something to spark them into action—to make them realize the opportunity they miss by lack of knowledge or indifference to stock and to the wants of customers. The take-it-or-leave it days are over but probably the only fact which will awaken the department to the present day situation is the firing of a few of the girls."

Buyers are like other people, quick to place the blame for lack of sales on other shoulders. But how much real advertising is being done by the stores? Last month it was limited both in appeal, in the presentation of style merchandise, and its use to any woman. The cosmetic burden was carried in the newspaper columns: The story of a new way to keep one's hands really clean—use a hand lotion not only after washing but before and then after. A grand way to use plenty of lotion but it does keep hands soft, free of grime, and white. The importance of how powder should be applied was told in another column and something of its fine texture and what it would do for the fallow complexion that comes in the early Spring—because the intense light shows it up.

Few stores are so unionized that the girls cannot come a little earlier than the regular opening to attend a discussion meeting, and on Mondays the Chicagoland stores open at 12 noon, and other days at 10, against the pre-war time of first 8:30 and then 9 o'clock. The shorter hours seem to indicate shorter total sales as well—which was not the intent when stores went on a 40-hour schedule for the week.

When demonstrators come from the manufacturers with new ideas the cosmetic buyers put them behind the counter. Why not have the girls come in early, or even better, have the manufacturer plan a dinner for the gals and permit the demonstrator to give a pep talk? True, it will be confined to that specific line but any girl who is alert will find enough ideas to increase her sales for weeks to come. It works in other departments of the large stores so why not in cosmetics? When the idea was presented to

**Colognes and toilet waters selling strong.
Trade picture has taken a turn for the better in Buffalo.**

Cosmetic section in specialty store justifies itself.

**Demonstrators need more training.
Long lipsticks losing favor.**

a buyer she said: "But it is not done in cosmetics," that seemed to close the book. But open a new one if your department moves ahead of the last quarter's figure. That should be easy for it was a dull time in sales.

Probably the basic reason that demonstrator's classes and talks are not given before salespeople is directly traced back to the source—the manufacturer. From a half dozen different cities reports come that the present day demonstrators, considered as whole, are not well trained and far from the pre-war alert, wide-awake women who

Stores Ready For Promotions

ment stores and chains reported here in six pages

used to present a new line with plenty of enthusiasm and new samples.

About a year ago one of the largest distributors of merchandise to retailers throughout this area dropped its line of cosmetics to permit its customer to handle any line he wanted. The firm had spent over \$1,000,000 to build this private label line and to put it over with the trade and orders had been comparatively good until the wartime made certain ingredients difficult to obtain. Then the decision was made to drop the line.

Throughout the Midwest there are a number of stores with international and wide-spread national reputation which in pre-war days carried merchandise under their private label. These stores did an excellent business with these brands and stood behind every jar and bottle that was sold. Today, who is doing it? Department stores report that it is too difficult to sell. "A girl wants to hand

Good demand for compacts is developing. Trend is toward plain, flat cases.

Buyers are readjusting lines.

Super-ballyhoo pays off.

Toiletries manufacturers must find an effective way to compete with jewelry and handbag promotions.

merchandise across the counter and a name-brand," said one of the old-time buyers, whose store did a wonderful business on its own brands. Today it has a few left which are always on order by the customers, so small is each shipment.

The chain drug stores have stepped into the private label gap and are featuring their value with pms to their own sales force, who in turn sell this group of merchandise in preference to the name brands. And there are repeat sales proving that the item has value.

Until manufacturers, whose volume is reduced, retail stores, whose sales are down, and women, who want the merchandise but hesitate to pay the tax, GET TOGETHER, Congress will still filibuster over this or that. A cosmetic lobby is needed—immediately.

Closely allied with a good lip-stick is the preparation to keep it on which Emery Bird & Thayer, Kansas City has featured. Add to that a fine powder which does not leave a powdered look, regardless of its application, and you have a threesome that ought to be good throughout the Summer. Powdered faces are going out of fashion and most women need some application instruction. Rubbing a dirty powder puff on a dirty face—such as all the large cities produce free of charge to aid cosmetic cleansers—is one reason for more and more attention to the selection of a foundation that will hold the powder thru the April-May rains. John W. Thomas & Co., Minneapolis, suggests this in clever advertising and the woman mixing the powder to one's own complexion also gives instruction in its deft application. During Lent the wide-spread Midwest presentation of the silk screen powder by Rubenstein had women rushing in for it for silk is still a new word in today's pocabulary in comparison with nylon.

Mandel Brothers, one of the most promotion-minded stores in Chicagoland, used a 2-column-14-inch ad; Carson Pirie Scott & Co. used 5-columns on a 5-inch deep ad; Walgreen used a half page, 8-columns across, to tell the story of powder, foundation, rouge and lip-stick. With such a barrage, sales were made and merchandise handed across the counter.

"The sale was satisfactory," said a leading State Street buyer, "our only complaint was that the girls didn't work to make a book, for the entire line could have been sold."

Famous-Barr Co., St. Louis, has been studying the eye business and reports there is a need for cream and pads to give relaxation to weary muscles. This was a popular 2-in-1 idea that did appeal, as do all the half price sales. The Fair, Chicago, was one of the few stores that recognized the need of a hand-cream for Spring use and its half

price event, that stressed softening and nail improvement, had a substantial reaction.

Penney's of Milwaukee also joined the half-price sales' group offering fitted cosmetic kits, compacts, metal lip-case holders, comb, mirror, and coin purse. Exactly what the career girl needed and at her price, \$1.66 plus a 10 per cent tax.

SELLING FOR MAY

When you read this your Easter business will be completed and plans for May will be well along. Buyers who suggested some programs are of the opinion that aggressive selling is needed and with display, intelligent salesmanship will produce new business in friction lotions, colognes, in which two or more are sold as a unit, and lipsticks. Of the later, there should be at least three—one for home, the office and one's purse.

One buyer expanded the lip-stick idea by suggesting that one purchase the shade which will make the teeth appear whiter than usual. Some colors make teeth yellow, others give a blue cast. "Try several until you have one which is exactly the shade for your teeth," advised this buyer "and then match it with nail polish to accent the clarity of your hands. And, she added, "use plenty of hand creams to keep them in good condition."

Some day, a smart buyer or a manufacturer with an eye on new sales is going to see a greater use for the sale of hand cream. Every photographic store should offer it to every patron who does his own processing.

When Spring really moves in on the Midwest there is a rash of fashion shows. Cosmetic buyers who feature clinics on make-up at this same time are preparing the way for aggressive selling and for the "hand-me-a-jar of —." I liked the way it was shown. Several stores throughout the area that have tried the clinics for customers have had standing room. At least a manufacturer can do his part and stimulate the idea, if only to sell his product which in turn will benefit the entire industry.

One manufacturer has a representative at women's clubs—at day and night groups. Following such a lecture the store which carries this merchandise has a line of women waiting to have a "prescription" written for them. It is an idea that has produced a small fortune for this firm. The story is told simply, effectively and with sales' returns that are most satisfactory.—Jean Mowat



DALLAS

Lines Being Shortened and Adjusted

BOTH department stores and drug counters took advantage of the interim between Valentine's Day and Easter to concentrate on special sales to clear shelves for the warm weather season. These items were promoted more through counter displays than through newspaper advertising. Powders, colognes and nail polishes were of-

fered in special combination groupings. Nail polish and lipstick combination continued in popularity. Sales were peppy on hand lotions and skin creams.

Cream shampoos proved in demand with a good volume still maintained on home permanents. Scalp oils and hair pomades sold briskly.

Most surprising demand was for compacts. Many of these were offered at lowered prices and those in the medium range were most appealing. The trend, according to one department store, was toward the plain, flat cases and away from the very ornate variety. Cases which provided for loose powder were favored. This trend also was displayed in regular face powder where requests for cake types of powder and dallied forms dropped below loose powder. The move seems definitely toward use of more foundation creams and powder bases supplemented by a film of powder.

Lipsticks in lighter shades and toward pure red rather than blue tones sold steadily. Long lipsticks were losing favor to the shorter variety which seem to fit more handily in the handbag. One buyer reports that the appearance of the lipstick case is oftentimes more important than the brand name.



Drug store chains are reaping the harvest made possible because department stores found private label brands "too much trouble."

Several stores reported good sales on fancy toilet soaps. Most of these have featured the bars in special counter displays. Color and interesting shapes tend to govern demand for these soaps most of which are destined for gifts.

Many buyers mentioned that they were taking advantage of this sale period to readjust and shorten their lines. The trend toward more dollar-consciousness on the customer's part is quite evident and they are checking their lines to eliminate slow moving items so that they can stress the items that do sell, and better train their sales personnel to handle them. One specialty store has reduced its lipstick colors to eight. They have found that they can move these shades very well because they comprise the large demand group. Sales people can present convincing proof of their adaptability because they are well informed on the uses and effects of these eight shades. The department shows a bigger percentage of profit in lipsticks than in the previous six months.

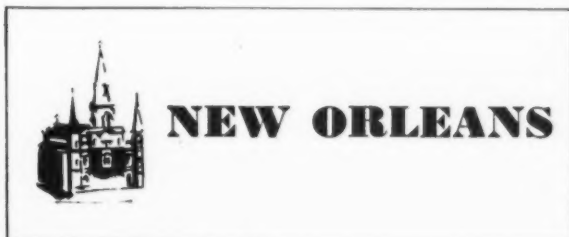
Revlon's Orchid shades continue to sell well still backed by the heavy introduction promotion. Chain store buyers have done well on two-for-one specials.

Colognes in light fragrances have gone well. Heavy perfumes never have gone well in warm Dallas.

In perfumes Jean Patou's L'Heure Attendue maintains a good selling pace, having been given a good introductory advertising campaign by Neiman-Marcus, tying in with the national campaign. Prince Matchabelli's Stradivari also is popular there.

Neimans got encouraging response from a half-page advertisement in a daily newspaper featuring Elizabeth Arden's seven day diet for the skin, offered when the Arden special representative was in the store.

A. Harris used newspaper advertising to promote Germaine Monteil's Beauty Balm with good results while Monteil's special beauty representative was in the store for three days. Other Monteil cosmetics had accelerated sales during this period. Most buyers believe the visits from these special representatives are healthy stimulants for cosmetic sales of all kinds.—*Jean Shaffer*



Specialty Stores Should Consider Cosmetics Lines

HOW important to a good woman's specialty store is the cosmetic department? A good answer to this question was provided in New Orleans this month by the Kreeger Store, which has just celebrated the first anniversary of its small, compact but well-planned cosmetic counter.

Evidently, cosmetics are not essential, for this company has maintained an excellent prestige rating and a good business for three generations without them. However, at the end of the first year, Manager Armand Kreeger reports that cosmetics are in the store to stay. Although the new department does not perhaps actually draw customers into the store, it keeps them from going elsewhere to round out fashion needs, which more than justifies the allocated space. In time, the importance of this department may justify an increase of counter space; at present, it is confined to 50 feet of counter space, and a limited number of carefully chosen items.

Although Kreeger's pronounces itself satisfied with its excursion into this field, several other smaller but exclusive specialty shops report that cosmetics are too much trouble to handle. The Dress Circle, which caters to a top-drawer clientele, tried handling a treatment line (Cyclax of London) but last year asked the company to withdraw the line, since the sales staff 'kept forgetting it was there.' This shop now sells Henri Bendel lipsticks and perfumes; no other cosmetic items. Town and Country, an adjacent shop with an equally good clientele, handles some Mary Chess items. The Liberty Shop, which controls most of the city's expensive custom dress trade, sells a few Bendel

items. These stores, along with several others, represent a good potential market. Although the volume of their business might not justify assignment of a manufacturer's representative, the quality of their clientele might make it worth while, for one of the prestige lines.

Generally speaking, March was slow in the cosmetic market, in the established stores. The city, which puts tremendous energy into pre-Lenten social activities, takes Lent seriously. Some buyers blamed the manufacturers for the slump, commented on a dearth of new spring shades to promote. It is too early for brisk Easter promotions, they pointed out, although candy and toys for Easter have already made their appearance. Maison Blanche was lying particularly low in the area of cosmetic promotion. Current windows omit perfume and cosmetics entirely, while there was no cosmetic tie-in scheduled for the store's big Spring fashion show presented in conjunction with a city-wide flower show. Other stores were more active. Gus Mayer and Holmes devoted considerable window space this month to launch the new Matchabelli shade 'Stradivari Rose.' Holmes was also spurring business with a big batch of specials. Cheramy products were slashed: \$1 size bath powder, 79 cents; dusting powder, 49 cents, toilet water, \$2 size for \$1. Houbigant compacts were cut from \$2.50 to \$1. Yardley creams were selling 2 for \$1.50. Lelong castle perfume was drastically reduced: \$5.50 size for \$2.75; and soaps, \$2 for \$1. Corday's Frenzy was even more reduced: \$10 size for \$3.50, \$18 size for \$6, and comparable reductions in other sizes and items. In addition, Holmes devoted a major window to a cosmetic fashion tie-in, featuring sun dresses and sun-time cosmetic products by Frances Denney and Dorothy Gray. Gus Mayer featured Patou's L'Heure Attendue, Molyneaux's Magnificence and Caron's Farnesiana in fashion windows this week. Ayer's Small Wonder set received attention from most stores this month, including a whole window from the Katz and Besthoff drug chain.—*Glendy Culligan*



Ballyhoo Pays Off

BALLYHOO pays off in this town. And the new all-liquid cosmetics line of John Robert Powers had plenty: the seven Powers models were pictured in the papers, on television, and heard on the radio. They were featured in many around-town stunts and appeared twice a day for four days in novel shows at the John Shillito Co., which has the new line exclusively. There were 1500 women visitors per show, and the majority of them trooped into a large foyer where a battery of "cosmeticscopes" were stationed, to determine the proper set of colors for each customer.

The showings began on a Monday; Wednesday the store had to wire for additional merchandise with re-

peats Thursday. There was a constant stream of customers through the first-floor cosmetics department, and four cosmetiscopes were busy there. The department manager wouldn't mention how much was taken in, but one customer was heard to mutter, "Wonder what they're giving away here!" The women were crowding to place \$10 and \$15 orders for the whole line, including the \$5 bottle of fluid gold. One estimate of the week's business was \$17,500.

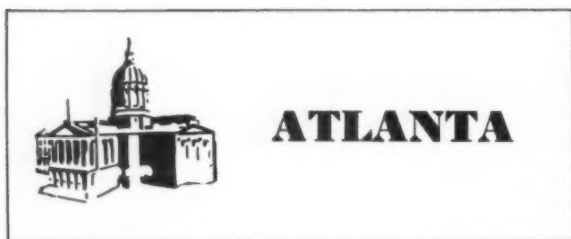
The same store had to reorder the "Sanipul" (handy container of bathroom tissue) in kitchen colors, did well with Revlon's double lip-fashion. A similar two-for-one lipstick by Barbara Gould, with an applicator, was doing well at Rollman's, where soaps were flourishing. The Hudnut home permanent with the rinse included was selling. A floor demonstration of Erma Coleman's treatment lines was a good investment, the buyer said.

A fabulous showing of Christian Dior dresses resulted in a surge of business for Gidding's Dior perfume in the \$5 size and cologne at \$4. The same scents sold through Charles of the Ritz at another store went at a slow pace. The exclusive Giddings shop was doing nicely with Amorskin at \$2 for the \$5.15 bottle and Araline was selling at \$5 a bottle.

The new Elizabeth Arden eye-make-up pencil was in for a build-up at one store, which planned to feature its self-sharpening feature.

The double lipsticks by Revlon and Barbara Gould went fast at McAlpin's, along with the Hudnut-with-rinse permanent, but the sole seller at the Fair was a razor blade packet of 150 two-edge blades for 99 cents. McAlpin's planned to advertise the new Barbara Gould home facial, cream with an egg-cup type of massage instrument.

The Dow Drug chain was still doing a booming business with yarn sachets, with binnies, scotties, chickens and ducks added to the kittens. The lack of tax was credited here. For the same reason, plus an extra cake of soap, Wrisley walked out at Alms and Doepke.—*Mary Linn White*



Buying Only in Necessities

IT'S rather a contradictory story cosmetic buyers are giving out these days.

Most of them admit that the past 30 days have been "only fair" from the standpoint of sales. Another comes along and boasts that their sales are "increasing every single day in the week."

On one score at least they're all in agreement just now: Atlanta women have started their Spring cleaning early, beginning with their faces and hair.

Treatment lines have been selling especially well for the past month, as well as creams, lotions and tonics.

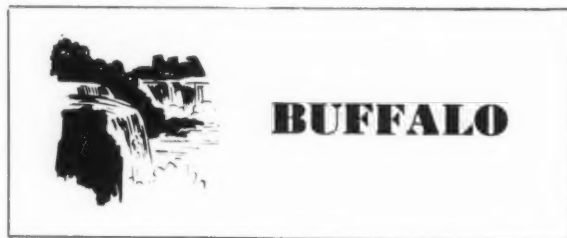
There has been no sudden wave of popularity accompanying any one color of lipstick, as has been the case in past Springs. Most of the customers have been following their own individual preference, regardless of so-called trends, although Revlon's Scarlet Poppy shows signs of heading the preferred list before the season is out.

Home permanents are selling like mad all over town, with Toni leading at the present accounting, by a wide margin. There has been tremendous interest, too, in "Spray Wave."

It has been a particularly good season for hand lotions, for non-expensive colognes, with perfumes lagging noticeably behind.

Despite any adverse criticisms of hormone creams and lotions, one cosmetic buyer still claims to do a good business with them.

She is the same buyer who has analyzed the current cosmetic market to this extent: The public, she feels, has become very tax conscious. They're holding back, waiting for the cosmetic tax to be either cut or lifted altogether. In the meantime, they're buying nothing but necessities, such as lipsticks, deodorants, creams and face powders. Occasionally one of them will break over and buy a dram of perfume.—*Maynita Gerry*



Business Takes a Turn For the Better

THE trade picture in Buffalo has taken a turn for the better, the perfume and toiletries pendulum showing a definite upward swing during early March. Granted, purchases made for Valentines Day did much to swell the total volume for February, but excluding these for the moment—general figures for that month showed a heartening improvement over those of January.

A good example of this was the report secured at the William Hengerer Co., downtown department store with a solid, middle-class clientele. Recently they staged an Elizabeth Arden promotion, featuring a two-day visit from Peter Vest, who presided at the Elizabeth Arden counter, offering free advice on make-up improvement. During this same period a woman representative from Elizabeth Arden spent the entire week at Hengerer's, proffering helpful suggestions about the treatment and care of the skin.

This, coupled with an Elizabeth Arden window display and newspaper advertising, combined to produce a net result that far exceeded the store's fondest expectations. All of which proves that comprehensive integration of all your promotional elements are bound to produce the tops in sales.

Another "costly item success story" concerns Frances Denney's neck and contour cream, with chin strap, which sells for \$5.00 plus tax. At Hengerer's, it sold on an average of twelve packages per day from the very first day it

was advertised—an impressive record, considering the price of the item and the general condition of the times.

Asked if the unfavorable national publicity on hormone creams had depleted sales to any extent, the buyer reported that up to now this publicity had affected them in no way whatsoever. . . . Rubinstein's pasteurized night cream and Tussy's sale of cleansing cream were also responsible for the increased volume at Hengerer's.

Buying trends of Buffalo's bargain seekers were checked at Sattler's, the "one-stop wonder store" nationally known for their bargains galore, whose zany successful promotions were the subject of a recent feature article in *Coronet* magazine. Incidentally, their reply to a subsequent request from a Massachusetts housewife who read this article and recently sent them 50 cents, requesting that they send her a 50 cent bargain, was a free, round-trip plane ticket to Buffalo, plus \$3,500.00 worth of free merchandise presented to her by every department manager throughout the store . . . to say nothing of the "celebrity" whirl to which she was treated.

At Sattler's it was learned that home wave sets are still the most popular all-round toiletries item, with personalized initialed compacts coming in as a close second. With the approach of Spring, perfume sales reveal a slight decrease—but this is more than offset by the tremendous increase in the sale of toilet waters and colognes. Considerable improvement has also been noticed in their treatment lines, Charles of the Ritz and Du Barry items moving particularly well.—*Maggie Flemming*



Coalition of Jewelry and Toiletries and Manufacturers?

LAST January Tom Maruca, toiletries buyer for the May Co., Denver, voiced the opinion that unless toiletries manufacturers prepared themselves to compete with handbags, jewelry, and other first floor departments this year they were going to find themselves out of the customer current. That remark was brought forcibly to memory yesterday when we walked into one of San Francisco's leading stores. It was Saturday afternoon, and the store hummed with activity. Hummed, all except a quiet, peaceful corner where the salesgirls stood gazing mournfully on the crowds of shoppers that milled and jostled across the aisle. And that quiet corner was the toiletries department.

There are some good specials in toiletries being offered these days, but quite evidently, in this particular store at least, the toiletries specials could not equal the appeal that the handbags and lingerie and hosiery had for these smartly dressed Grant Avenue shoppers.

This type of store is facing a problem. It has a dignity and an atmosphere to maintain. Down on Market Street, if pushed, a store can set up booths in the toiletries de-

partment, mount persuasive demonstrators in white uniforms on a box behind the counter, and go all out on the old fashioned ballyhoo open demonstration. And they're doing it already, in Market Street stores all up and down the Coast. But what smart top line manufacturer is going to come out this Fall with a refined, genteel, velvet colared type of promotion that will get action for the carriage trade toiletries department?

DRAM SALES

Sales of perfume by the dram are coming back, and fast. When offered with attractive jewelled bottle caps and containers they really go to town, but we saw two stores this week which were doing a nice dram business with ordinary bottles. They had had designed special stands, on which the bulk bottles were cemented, and beside the stand was a large glass enclosed sign listing the perfumes offered, with the price per dram. With the relaxation of the seller's market dram sales of perfume always have come forward, together with toilet waters and colognes, and there are plenty of indications that the perfume business is ready for such an era now. Years ago D'Orsay offered a bulk perfume deal of one 8 ounce bottle free with the purchase of three. That was before the day of high costs or the 20 per cent excise tax and the local sales tax, but it sold a lot of bulk perfume. Now, an offer patterned along such lines conceivably would be welcomed again. Later, Lucien Lelong offered an attractive bulk stand free with the purchase of a designated number of bottles of bulk perfume. That sold a lot of perfume, too. When a woman figures the 20 per cent tax on an expensive bottle of perfume in 1949, even though she has the price burning a hole in her handbag right then, she is quite likely to wander over to the handbag, lingerie or hosiery section to have a look before she decides definitely on her expensive purchase. But a dram, now,—a \$1.75 purchase, or \$2.00, or \$2.50,—that's something else again, and in 1949 the chances are much better of getting 20 women to spend \$1.75 apiece for perfume than one at \$20.

WHO GETS IT?

We observe with interest the battle currently going on among department store sections as to which gets the item. The toiletries section of a Fresno specialty shop was doing a rushing business on a bejewelled gold case that held a ball point pen when we were through there last week. True, this same type of case was offered containing a glass vial for perfume, which was how the toiletries section got the nod in the first place. But who is going to determine just where the line is going to be drawn now? Probably this store had no other section which might have been interested in offering gold cased ball point pens, but it is easy to imagine toiletries buyers in other stores, inflamed by the success of this presentation, putting up a sturdy battle for the selling rights in their sections. The wall was widely breached last fall when department and specialty shop sections alike did a volume business on bejewelled brooches and bracelets, cunningly contrived to enclose perfume applicators. The pen was a natural next step, and we predict it won't be the last. It could be that a coalition of toiletries and jewelry manufacturers might be one answer, at least, for toiletries sections in 1949.—*Don Cowling*

Packaging



LORY

LORY: Trill, "temporary wrinkle remover," by Lory Co., is bottled in a one-half ounce size, with cherry and gold label and gold cap. A cherry red booklet accompanies the flat bottle. The whole is boxed in acetate. Retails for \$3.50

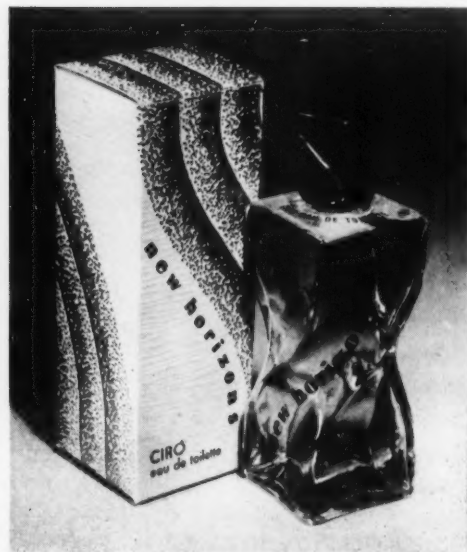
PEGGY SAGE: Finger Rest Package, by Peggy Sage, features a finger rest to increase the ease of home manicuring. The rest is made of plastic. In addition, the package contains manicure polish, lubricant polish remover and cotton in a dispenser. The exterior of the package is decorated in a pink and white floral design. Valued at 75 cents

CIRO: Giro is introducing New Horizons, Reflexions, Surrender and Danger toilet water in a new two-ounce size. Shown here is New Horizons in a twisted bottle to fit the hand. Priced at \$2.75

PEGGY SAGE



CIRO



SHULTON

SHULTON: Shulton offers Friendship's Garden bathing accessories in a new lid-box, containing guest size toilet water, talcum, bath salts and regular size toilet soap. Individual items are in the familiar Friendship colors. Toilet water decorated with green leaves. Box in pink, yellow and blue. Price \$1.25

TUSSY: Tussy Cosmetiques is introducing its new Spring shade, Charmerose. The lipstick and compact rouge appear in the crown design, cream rouge in a transparent glass case with fluted top. Individual packaging, and gift set, are done in pastel pink foil paper with a Victorian scroll motif in the actual Charmerose shade.



TUSSY

HARRIET HUBBARD AYER: Harriet Hubbard Ayer has entered the home permanent field with a complete home permanent plus a cream shampoo, a cream rinse, and a Paris hair style folder. The box is a chocolate brown with muted shades of blue, white and red running along the left side. The set sells for \$2.75

LE GALION: Eau Le Galion, a toilet water for men, has been introduced by Le Galion. Packaging is cream colored, with the trademark, the ship, "Le Galion" in black. Simplicity is the keynote. Price for 2-ounce bottle \$5.00



LE GALION



HARRIET HUBBARD AYER



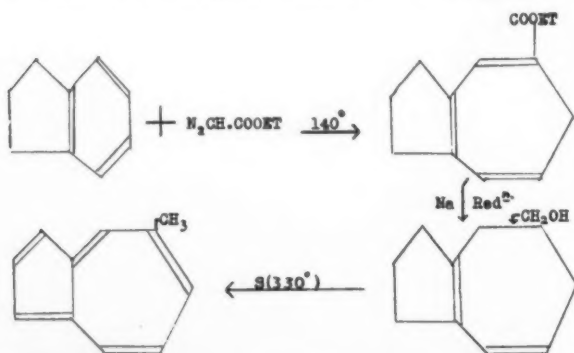
Essential Oil and Perfumery Progress

Here the author presents a comprehensive review of the recent developments in research in the field of essential oils, perfumes and synthetic aromatic chemicals.

DR. PAUL Z. BEDOUKIAN*

AZULENES are interesting compounds which possess a deep blue or violet color and are found in a large number of essential oils. They have aroused considerable attention and a number of them have been synthesized. Pfau and Plattner were the first to synthesize azulenes. Plattner and co-workers recently gave the synthesis of 5-methylazulene and 6-methylazulene.⁶² 1,3-Benzazulene was also prepared by the same authors.⁶³ Newer methods of synthesizing azulenes are being investigated by other workers.⁶⁴ The synthesis of 5-methylazulene⁶⁵ and 4,6-dimethylazulene⁶⁶ has also been reported.

A rather simple method of preparing 6-alkyl azulenes was described by Arnold.⁶⁷ It involves the addition of diazoacetic ester to indane, followed by Bouveault-Blanc reduction to give 4-(hydroxymethyl)-1,2-trimethylene-1,6-cycloheptadiene. This product is reported to be an oil with a strong hyacinth odor, and on dehydrogenation with sulfur it gives 5-methylazulene. Clark⁶⁸ has



published an article in which he reviews the structure and gives some methods of preparation of azulenes.

SEQUI TERPENES

Interesting research has been carried out in the field

* Compagnie Parento, Inc., Croton-on-Hudson, N.Y.

(Continued from March issue)

of sesquiterpenes. Cadalene has been synthesized by a novel approach by Dev and Guha.^{69,70} The same authors prepared a number of methyl cadalenes.⁷¹ Some of the degradation products of dihydrozingiberene have been synthesized.⁷² A new and unambiguous synthesis of turmerone has been reported.⁷³ Other investigations include a study of the decomposition products of eudesmol⁷⁴ and a study on the structure of partheniol, a sesquiterpene alcohol from guayule.⁷⁵

RESEARCH IN ESSENTIAL OILS

A number of Indian essential oils have been studied. The oils from *Citrus medica* var. *limonum* and *Citrus medica* var. *acida* have been found to have the following compositions respectively: d- α -pinene—0.78, 0.60; camphene—0.43, —; d-limonene—64.3, 61.8; terpinene—1.8, 4.7; linalool—3.8, 4.7; hendecanal—5.2, 3.2; terpineol—3.9, 2.7; citral—4.4, 4.2; linalyl acetate—3.8, 6.8; cadinene—1.2, 1.5; and other unidentified materials.⁷⁶ A more recent study of the oil of *Citrus limonia* var. *acida* gives a considerably different composition.⁷⁷ The oil of cold pressed Coorg oranges, *Citrus nobilis*, has been found to consist of d-limonene, 94.06 per cent; methylanthranilate, 0.12 per cent; linalool, 0.18 per cent; nonyl caprylate 2.04 per cent.⁷⁸ The composition of oil from Sykhet oranges was somewhat similar.⁹² The oil obtained from the leaves of *Citrus decumana* had the following composition: d- α -pinene, 2.6; l-beta-pinene, 6.6; linalool, 42.34; linalyl acetate, 44.18 etc.⁹³ Oil derived from the fruits of *Bassia longifolia* contained 22.72 per cent cinnamate, 3.53 α -terpineol and 67.87 per cent sesquiterpenes and sesquiterpene alcohols.⁹⁴ Oil of *Ocimum basilicum* (album) contained 56.67 per cent methyl cinnamate, 4.35 per cent l-linalool and 20.85 per cent terpinene.⁹⁵ Studies on Indian linaloe oil indicated the following composition: methylheptenol 1.5 per cent; linalool 47.7 per cent; linalyl acetate 40.8 per cent, and higher boiling materials.⁹⁶ Indian palmarosa oil⁹⁷ and Indian lemongrass oil⁹⁸ have also been studied.

The occurrence of menthofuran in American peppermint oil (*Mentha piperita*) has been established by comparison of the natural product with the synthetic.⁷⁹ Its occurrence in *Mentha piperita* was also reported by another investigator who states that this compound is not found in Japanese mint oils.⁸⁰ This investigator has also noted the presence of jasmone in peppermint oil, this compound being likewise absent in Japanese cornmint oils. Other constituents detected in *Mentha piperita* oil were l-caryophyllene, a sesquiterpene alcohol and ketone, a sesquiterpene hydrocarbon, and an octenoic acid.

The high boiling constituents of Spanish eucalyptus oil (*Eucalyptus globulus*) were investigated.^{81, 82} The carbonyl compounds contained l- and dl-myrtanal, l- and dl-carvone, l-pinocarvone and l-acetyl-4-isopropylidene-cyclopentene. Australian eucalyptus oil (*Eucalyptus dives* C.) contained esters of cinnamic and geranic acid as well as eudesmol. p-Menthane-1,2,3-triol was also found in this oil.⁸³ The oil of eucalyptus australiana contained the same type of ingredients. Oil of eucalyptus campaspe consisted of 64 per cent cineole and 7.2 per cent geraniol, and eucalyptus kochii, 85 to 92 per cent cineole among other constituents.⁸⁹

Brazilian sassafras oil (*Ocotea cymbarum* or *Ocotea pretiosa*) has been studied⁸⁴ and the percentages of its constituents given with those of U. S. P. sassafras: Safrole—92.9, 80; a-pinene—0.7, less than 10; phellandrene—0, less than 10; d-camphor—0, 6.8; eugenol—0.6, 0.5. The Brazilian oil contained also traces of butyraldehyde, furfural, cineole and benzaldehyde. It is levorotatory whereas the American oil is dextrorotatory. The ketonic constituents of Reunion geranium oil were studied but their constitution has not been ascertained.⁸⁵ Tobacco leaves have been found to contain d-beta-methylvaleric acid.⁸⁶

Alliine, the mother compound of garlic oil, gives allidine on enzymic cleavage, which then decomposes into the volatile diallyl sulfide. Alliine, which is thought to be S-allyl-L-cysteine sulfoxide, $\text{CH}_2=\text{CHCH}_2\text{SOCH}_2\text{CH}(\text{NH}_2)\text{CO}_2\text{H}$, has been found to possess no antibacterial activity.⁸⁷ Mustard oil obtained from radish seeds (*Raphanus sativus* v. *alba*) was shown to be $\text{MeSOCH}:\text{CHCH}_2\text{CH}_2\text{NCS}$ and to occur in the plant as a glycoside.⁸⁸ The formula has been established through degradation reactions.

Oil obtained from *Myroxylon pereirae*, the bark of which yields commercial balsam peru, was shown to consist largely of d-nerolidol along with cadinene, l-cadinol and other sesquiterpenes.⁸⁹ It thus serves as a practical source of commercial nerolidol and farnesol.^{89a} As a result of this study, both natural nerolidol and farnesol are now being marketed. Another possible commercial source of nerolidol may be found in the seeds of *Melaleuca viridiflora* S. which yield an oil containing over two-thirds nerolidol.⁹⁰

The lactone in costus root oil has been subjected to an interesting investigation.⁹¹ The same worker has established the presence of d-isomenthone in oil of *Micromeria abyssinica*.¹⁰⁰

A number of papers of considerable interest to perfumers have appeared on the essential oils of the genus *Orthodon*.¹⁰¹ Other recent publications deal with the composition of the oil of *Artemisia austriaca*,¹⁰² the essen-

tial oil of mustard in *Brassica* species and *Eruca sativa*.¹⁰³

The oil obtained from the flowering tops of *Lippia asperifolia* has been found to consist of 80 per cent ocimene, together with such ketones as ocimenone, myrcenone, etc.¹⁰⁴ The oil of the Brazilian cabreuva tree contained methylacetophenone and similar ketones;¹⁰⁵ oil from the leaves of *Calusena anisata*, 74.3-89.6 per cent anethole,¹⁰⁶ and the essential oil of *Ferula foliosa*, 35-40 per cent beta-pinene.¹⁰⁷

Sweet basil oil commercially distilled in California has been found to have the following composition as compared to oils distilled in Europe, respectively: eugenol—14.3, 5.6 per cent; total methoxy 8.02, —; methylchavicol—25.43, 32.0; linalool—59.71, 35.19.¹⁰⁸ The essential oil of *Phyllocladus trichomanoides* has been found to consist mainly of sesquiterpenes.¹⁰⁹

REPORTS ON ESSENTIAL OILS

Numerous reports have appeared in the literature on the properties of essential oils cultivated in various parts of the world. Some of these are concerned with experimental production of new essential oils in the United States. The essential oil of *Pectis papposa* has been found to contain 50 per cent cuminaldehyde, 25 per cent ketones, and the balance, terpenes.¹¹⁰ The properties of the oil obtained from the leaves of *Salvia leucophylla* have been noted.¹¹¹ An interesting article discusses the production of thymol from California bay tree oil.¹¹² The state of Oregon is becoming increasingly important in the cultivation of essential oil bearing plants. One study deals with the properties of Oregon and Washington peppermint oils¹¹³ and another with Oregon lavender oils.¹¹⁴ The oil from sweet goldenrod consists mainly of methyl chavicol, and in addition, the oil contains 15 per cent d-limonene and 0.2 per cent l-alpha pinene.¹¹⁵

Details on the production of Spanish sage oil appeared in a publication.¹¹⁶ Another article described the production of aniseed oil.¹¹⁷ Portugal is also a producer of essential oils, some of which have been studied and their properties reported.¹¹⁸ Included are the oil of *Lavandula viridis*, *Mentha rotundifolia* and thyme. It is reported that in two lots of crude bitter almond oils, the free hydrocyanic acid had combined with benzaldehyde to give an addition compound with the resultant altering of the properties of the oil.¹¹⁹ Interesting reviews have appeared on the production of Belgian¹²⁰ and North African essential oils.¹²¹ The world production and characteristics of rosmarin are discussed in another publication.¹²² A British publication gives methods of distinguishing between the genuine and adulterated oils of petitgrain and neroli bigarade.¹²³ Another article deals with oakmoss oils.¹²⁴

India, already one of the most important centers for the production of essential oils, is showing increasing interest in this field as evidenced by the number of studies on the subject. Publications have appeared on cinnamon leaf oil,¹²⁵ vetiver oil,¹²⁶ and production of p-cymene from Indian oil of turpentine.¹²⁷ The coumarins occurring in the leaves of *Citrus acida* have been studied.¹²⁸

Investigation of various species of eucalyptus in Australia is being continued. Two studies deal with eucalyptus *cneorifolia*^{129, 130}. Articles of general interest which appeared in the literature discuss Argentinian

volatile oils,¹²¹ Brazilian wormwood (*Artemisia absinthium*),¹²² Japanese camphor basil (*Ocimum canum*)¹²³ and the essential oil of Russian fir trees.¹²⁴ An excellent treatise has been published,^{125a} on cedar species and their oils.

ANALYTICAL METHODS

In the examination of essential oils, it is often necessary to resort to special analytical methods. An iodimetric method of analyzing anethole in oil of anise with benzene as a diluent is reported to give quantitative results.¹²⁵ Various methods of analysis of citronellal in oil of eucalyptus citriodora have been reviewed.¹²⁶ Cinnamic aldehyde may be determined in oil of cinnamon by means of hydrazine sulfate.¹²⁷ Methods of separation and assay of cincole in essential oils are reviewed in another article.¹²⁸ Adulteration of essential oils with castor oil may be detected by taking advantage of the fact that castor oil is practically insoluble in petrolatum.¹²⁹ Various methods of determining ascaridole in oil of chenopodium have been reviewed and their merits discussed.^{130a}

The estimation of primary and secondary alcohols in essential oils has been discussed in a publication.¹⁴⁰ An excellent article deals with Girard and Sansulescu reagent as a means of separating and identifying carbonyl compounds in essential oils.¹⁴¹

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(To be continued in May issue)

Cosmetic Excise Tax Collections

Tax collections for the twelve months ending February 1949 are:

	1949	1948	1947
January	9,648,063	10,371,512	
February	12,984,776.27	12,290,714.04	
March		6,927,991	5,974,288
April		6,441,901	6,821,853
May		6,660,851	6,775,188
June		7,238,509	6,535,008
July		7,332,070	7,813,611
August		7,506,518	6,392,678
September		6,890,757	6,733,695
October		6,335,804	7,048,093
November		6,872,541	5,386,690
December		8,079,746	8,545,762

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"I understand they're looking for demonstrators!"

Technical Abstracts From Scientific Literature

Diethylene glycol monoethyl ether (carbitol) and some other glycols—glucuronic acid excretion after. Propylene glycol and diethylene glycol monoethyl ether (Carbitol) administered in large doses orally or hypodermically produced an increase in the excretion of glucuronic acid. Ethylene glycol, diethylene glycol, and glycerol produce no such increase.—Jean K. Fellows, F. P. Luduena, and P. J. Hanzlik. *J. Pharmacol.*, 89, 210-13 (1947). (M.W.G.) (*J. Am. Pharm. Assoc.*, xxxvi, No. 10, 298, 1947.)

Studies on detergent power. J. P. Sisley. *Am. Dyestuff Repts.* 36, 457-65 (1947). The factors on which detergent power depends are reviewed. These include: wetting power, foaming power, emulsifying power, dispersing or deflocculating power, solvent power, protection against redeposition, and resistance to lime salts. The mechanism of the manifestations of detergent power depends on the other variables such as the nature of the detergent, nature of the surface to be cleansed, nature of the impurity or soil to be removed, nature of the water employed, and effect produced on the surface to be cleansed. These factors are discussed at length. Methods of determining detergent power of agents to be used in laundry work are covered. Actual washing tests or empirical physical tests are the two most prevalent types, while others are measurement of diminution in weight of fabric being washed or the whitening effect on the washed sample. Numerous soiling formulas and techniques are also disclosed. The Kier Method in which a sample of soiled fabric is subjected to kier boiling and the amount of dirt removed determined gravimetrically, and the Pressing Method which consists of duplicating the mechanism of hand washing and determining the detergent effects colorimetrically are described in detail. Other fields covered in this review of evaluation of detergent power are wool scouring, hair shampooing, silk treatment, boiling off of vegetable fibers, and rayon and spun rayon treatment. 53 references. (*J. Am. Oil Chemists Soc.*, xxiv, No. 10, C.351, 1947.)

Absorption through the skin. G. Valette and R. Cavier (Faculté pharm., Paris). *J. physiol. et. path. gen.* 39, 137-74 (1947); cf. C.A. 40,6160⁷. A review on penetration of ions, gases, solvents, oils, phenols, alkaloids, hormones, vitamins through the skin. 250 references. (*Chem. Abs.*, 42, 2351, 1948.)

Arsenic in hair during chronic poisoning. A case is reviewed. G. Vitte and A. Robillard. *Vull. trav. soc. pharm. Bordeaux*, 84, 90-91 (1946). (S.W.G.) (*J. Am. Pharm. Assoc.*, xxxvi No. 10, 300, 1947.)

A study of unhairing. P. Chambard and R. Mazoyer. *Doc. sci. tech. inc. cuir* 1945, 138-41; *Chimie & industrie* 56, 51 (1946).—In a purely lime liquor or one containing small quantities of sulfide (0.3, 0.06, 0.12 per cent, equivalent to 0.15, 0.30, 0.60 per cent of the wt. of the hides) the rate of unhairing is doubled or trebled between 17 and 27 deg.; it increases but slightly from 27 to 37 deg. Rise in temp. increases hydrolysis, but as between 17 and 37 deg., it reduces the time required for unhairing and as hydrolysis is a function of time, it follows that the optimum liming temp. is about 27 deg. (*Chem. Abs.*, 41, 5739, 1947.)

Enamel-solubility reducing effect of flavored low concentration stannous fluoride solution. G. Van Huysen and Joseph C. Muhler (Indiana Univ. Dental School, Indianapolis). *J. Dental Research* 27, 46-51 (1948). A flavored 1:500 aq. solution of NaF was more effective in reducing enamel soly. at pH 4.0 than an unflavored solution. The reverse was true of SnF₂ at the same concn. and pH. A 1:20,000 concn. of NaF or SnF₂ was relatively effective in reducing the soly. of saliva-coated enamel. (*Chem. A.*, 42, 2295, 1948.)

Directed interesterification in glycerides. E. W. Echey, the Procter & Gamble Co. Interesterification can change the composition and properties of a fat, simply by changing the arrangement of the different fatty acid radicals in the triglyceride molecules. Of the many possible arrangements, the one corresponding with completely random distribution of the fatty acid radicals is always approached when a given fat is interesterified, by the process previously known, in completely molten condition. In contrast, the method of directed interesterification at temperatures low enough to cause fractional crystallization, as described in the present paper, provides a considerable degree of control over the positions taken by the fatty acid radicals, so that a fat may be made to assume a composition and properties much different from those corresponding with random distribution. The essentials of the method and typical results obtained with various fats are given. (*Ind. & Eng. Chem.*, 40, 1183, 1948.)

FLAVORS

Butyrates as Flavor Components

The aliphatic butyrates hold a position of importance in the flavor field equal to that of any other group of esters.

MORRIS B. JACOBS, Ph.D.*

FROM time to time in past issues of the AMERICAN PERFUMER the organoleptic properties, physical constants, solubility, and application, principally in flavors, of various synthetic compounds have been reviewed. Among the groups of chemicals previously discussed have been the aldehydes, AMERICAN PERFUMER 47, No. 11, 54 (1945) and 47, No. 12, 62 (1945); ketones, 48, No. 4, 59 (1946) and 48, No. 5, 54 (1946); terpene alcohols, 48, No. 9, 57 (1946) and 48, No. 10, 56 (1946); acetates, 50, 44 (1947) and 50, 159 (1947); formates, 51, 166 (1948) and 51, No. 4 (1948); and propionates, 52, 331 (1948) and 52, 421 (1948).

Among the esters there is another very important group, possibly as important as the acetates from the point of view of flavor application, namely, the butyrates. The esters of butyric acid can be classified, as was done in discussing the other esters, into three principal subgroups, namely, the aliphatic butyrates, the aromatic butyrates and the butyrate esters of the terpene alcohols.

It will be apparent from the following description of the properties of the aliphatic butyrates that they are

generally used as bulk components of flavor formulations and they have little use in perfumery. On the other hand the aromatic butyrates and the butyrate esters of the terpene alcohols have relatively wide use in perfumery and have some use as modifiers in flavor compositions.

ALIPHATIC BUTYRATES

Methyl butyrate, $\text{CH}_3(\text{CH}_2)_2\text{COOCH}_3$, is a colorless liquid having an apple flavor, a sweet taste, and a pleasant fruity odor resembling apples. It boils at about 102–103 deg. C., has a specific gravity of 0.898, and a refractive index of 1.3879. It is miscible with 95 per cent alcohol in all proportions but only 1 volume is soluble in 150 volumes of water. This ester is generally not carried as a stock item by dealers in aromatic chemicals. It has been suggested for use in apple, melon, pineapple, quince, and raspberry fruit flavors, and also for incorporation in nut and pumpkin essences.

Ethyl butyrate was one of the first esters used in the preparation of artificial and imitation fruit flavorings. There are many formulations in the early literature in which this ester is listed as a component. Thus about 50

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years ago an alcoholic solution of ethyl butyrate was known as pineapple oil. Ethyl butyrate, $\text{CH}_3(\text{CH}_2)_2\text{COOC}_2\text{H}_5$, is a colorless liquid with a pineapple flavor, a sweetish taste, and a fruity odor resembling pineapple. It boils at 120–121 deg. C., has a specific gravity of 0.878–0.879, and has a refractive index of 1.3930. The ester is completely miscible with 95 per cent alcohol and one volume of the ester is soluble in from 1 to 7 volumes of 60 per cent alcohol. Its solubility in water is about the same as that of methyl butyrate. Ethyl butyrate is considered an excellent component for apple, banana, peach, pineapple, quince, rum, and strawberry flavors. It is also suggested for use in butter, butterscotch, apricot, currant, gooseberry, grape, grenadine, honey, lemon, melon, mulberry, orange, pear, plum, pistachio, and raspberry formulations. Ethyl butyrate has virtually no perfume use.

Propyl butyrate, $\text{CH}_3(\text{CH}_2)_2\text{COOCH}_2\text{CH}_2\text{CH}_3$, is another colorless liquid with an apricot flavor, a sweet taste, and an agreeable fruity odor. It boils at 142–143 deg. C., has a specific gravity of 0.879, and a refractive index of 1.4005. This ester is miscible in all proportions with 95 per cent alcohol and about 1 volume is soluble in 500 parts of water. Propyl butyrate has been recommended for banana, plum, pineapple, and prune essences and has also been suggested for incorporation in apricot and peach compositions. It has little use in perfumery.

Isopropyl butyrate, $\text{CH}_3(\text{CH}_2)_2\text{COOCH}(\text{CH}_3)_2$, is a liquid with a pineapple flavor, a sweet taste, and a powerful fruity odor. It boils at 128 deg. C. and has a specific gravity in the range 0.865–0.870. This ester is soluble in 95 per cent alcohol and is only slightly soluble in water. It has been suggested for use as a component of the following flavors: blackberry, cherry, ginger, hops, huckleberry, melon, orange, peach, pineapple, plum, strawberry, and tangerine. It is not commonly a stock item of aromatic chemical suppliers.

Butyl butyrate, $\text{CH}_3(\text{CH}_2)_2\text{COOCH}_2(\text{CH}_2)_2\text{CH}_3$, is a colorless liquid with a pleasant fruity odor which upon dilution is reminiscent of pineapple. It boils at 165–166 deg. C., has a specific gravity in the range 0.872–0.875, and has a refractive index of 1.4049. It is miscible in all proportions with 95 per cent alcohol and is very slightly soluble in water. Butyl butyrate has been recommended for use in apple, banana, butter, pear, and pineapple flavors. It has also been suggested for apricot, butterscotch, and woodruff compositions but its concentrations in such formulations should not exceed 5 per cent.

Isobutyl butyrate, $\text{CH}_3(\text{CH}_2)_2\text{COOCH}_2\text{CH}(\text{CH}_3)_2$, is a colorless liquid which has a rum-like flavor, a sweet taste, and a pleasant fruity odor. It boils at about 157 deg. C., has a specific gravity of 0.863–0.866, and has a refractive index of 1.4035. Like the other esters of this group, it is miscible in all proportions with 95 per cent alcohol and it is very slightly soluble in water. Isobutyl butyrate has been recommended for incorporation in apricot, banana, cherry, peach, and pineapple flavors. It is also considered useful for essences for alcoholic beverage flavors like arrack, brandy, and rum. It has found virtually no perfume use.

Isoamyl butyrate, $\text{CH}_3(\text{CH}_2)_2\text{COOC}_5\text{H}_{11}$, isoamyl *n*-butyrate, amyl butyrate, is a colorless liquid with a pineapple flavor, a sweet taste, and a pleasant fruity odor which resembles pear in more concentrated solutions and

pineapple and banana when diluted. It boils at 178–180 deg. C., has a specific gravity in the range 0.860–0.867, and a refractive index of 1.413. This ester is miscible with alcohol and it is practically insoluble in water. One volume of amyl butyrate is soluble in 1 to 5 volumes of 60 per cent alcohol.

This ester is another of those few esters that were commonly employed in the manufacture of imitation flavors over fifty years ago. It still has wide use as a flavor component. It is recommended for apple, banana, currant, peach, pear, pineapple, and strawberry flavors. It has also been used for apricot, arrack, blackberry, black cherry, brandy, butter, cocoa, cranberry, date, ginger, gooseberry, grape, grenadine, honey, hops, huckleberry, lemon, lime, melon, orange, orris, plum, raspberry, rum, tangerine, and tea flavors.

Hexyl butyrate, $\text{CH}_3(\text{CH}_2)_2\text{COOC}_6\text{H}_{13}$, is a liquid with a pineapple flavor, a sweet taste, and a fruity odor. It boils at 205 deg. C. and has a specific gravity of 0.870. This ester is soluble in alcohol and is insoluble in water. It has been suggested as a component of blackberry, cranberry, currant, date, ginger, hops, huckleberry, orange, and pineapple essences. It is not generally carried as a stock item by aromatic chemicals distributors.

Heptyl butyrate, $\text{CH}_3(\text{CH}_2)_2\text{COOC}_7\text{H}_{15}$, is a liquid with a plum aroma, a sweet taste, and a rose-like fruity odor. It boils at 225 deg. C. and has a specific gravity of 0.870. It is soluble in 95 per cent alcohol and is insoluble in water. Heptyl butyrate has been suggested for use in apricot, cherry, and plum essences. Like the hexyl homologue, this ester is not carried as a stock item by aromatic chemical distributors.

Octyl butyrate, $\text{CH}_3(\text{CH}_2)_2\text{COOC}_8\text{H}_{17}$, also known as *n*-octyl butyrate and capryl butyrate is a liquid with a melon aroma, a sweet taste, and a heavy fruit odor. It boils at 244–245 deg. C. and has a specific gravity of 0.869. One volume of the ester is soluble in 3.5 to 8 volumes of 80 per cent ethyl alcohol. Octyl butyrate has been recommended for apple, peach, and pineapple flavors and has also been suggested for incorporation in cucumber, melon, and pumpkin essences. It is one of the few aliphatic butyrates used in perfumery and has been recommended for use in traces in rose perfumes.

Decyl butyrate, $\text{CH}_3(\text{CH}_2)_2\text{COOC}_{10}\text{H}_{21}$, is an homologous ester which has been recommended as a component of citrus essences. It is also used in perfumery for neroli, rose, and orange formulations.

Cyclohexyl butyrate, $\text{CH}_3(\text{CH}_2)_2\text{COOC}_6\text{H}_{11}$, also known as cyclohexanol butyrate, cyclohexanyl butyrate is a liquid which has a definite fruity odor. It boils at 212 deg. C. and has a specific gravity of 0.957. The ester is soluble in alcohol and is only very slightly soluble in water. It has been specially recommended for use in currant flavors and has been used in grenadine, peach, and berry flavors like strawberry and raspberry.

Although the aliphatic butyrates are not used in such great volume as some of the acetate esters, they are important flavor components. From a volume point of view much greater amounts of the aliphatic butyrates are used in flavor formulations than the aromatic and terpene alcohol butyrates of which, generally, only small amounts or traces are used in flavor formulations. The organoleptic properties, physical constants, and application of the latter groups will be discussed in a subsequent article.

How Spice Oleoresins Are Made

*Soaking the cake improves the yield . . . How to
protect the flavor of celery . . . Rate of solvent
flow important . . . How to avoid "channeling"*

ARTHUR GOLDMAN

A GROWING trend during the last fifteen years has been the use by meat packers of spice extracts in place of the ground raw spice. It has been shown that flavor results are as good or better than with raw spice and the many processing advantages in handling the soluble seasonings have increased their use greatly. Greater uniformity of strength and flavor, less risk of contamination by bacteria and rodent infestation, instant dispersion and solubility are important considerations.

The spice oleoresins—extracts of red and black pepper, paprika, celery, sage, cloves and ginger—together with essential oils, are blended by the seasoning maker and ground into fine flake salt or dextrose to form a uniform, lightly colored flavoring medium.

The oleoresins are made by solvent extraction. The solvent, such as acetone or alcohol, is brought into contact with finely ground spice to dissolve the oils and flavor principles. The solution is then removed by filtration and the solvent distilled off. The resulting oil contains the flavoring and odor matter together with fixed oils, starches and sugars. The exact proportions of these flavor principles vary with the particular spice and the solvent. In the manufacture of capsicum, the acetone extract has a different flavor and a larger proportion of starches than the extract made with benzene or hexane. In the making of ginger extract, the alcohol product has a much finer flavor and is more soluble in a finished beverage than that made with benzene.

Compared to the essential oils made by steam distillation, the oleoresins have a weaker odor but one that is deeper and more rounded. Usually the taste is heartier. The steam distilled product generally has more of the low boiling constituents and too little of the less volatile fractions to give a true representation of the original spice.

The choice of solvent most suitable for the extraction

depends upon many factors. Among those used are acetone, ether (for laboratory use), butyl ether, ethyl alcohol, pentane, hexane and benzene. Glycerin and propylene glycol are examples of non-volatile solvents occasionally used.

As explained before, the solvent's attraction for the desired flavor principles is the most important consideration.

If the solvent has too high a boiling range, the extract will be subjected to too high a temperature when the solvent is removed to make the finished product. Too low a boiling point will involve a heavy loss by evaporation unless elaborate precautions, such as refrigeration, are taken.

The solvent's cost, toxicity, flammability and corrosive effect on equipment are other factors to be considered.

Choosing the best grind of spice is important. For red or black pepper, about fifty mesh is suitable. The finer grinds will give complete extraction in a shorter time, but then the grinding mill will burn up more oil. In any case, the particle size should be as uniform as possible. When the particles vary, the smaller ones settle into the crevices between the larger, causing clogging and channeling.

Fines may pass through the filters and end up in the finished product, in which case they cause a good deal of trouble. Viscous oils such as capsicum or celery tend to be attracted by the fines and form clumps. One gram of fine particles will result in fifty grams of sludge in the bottom of the container after standing for a week or so.

Limitations of temperature must be observed. The flavor of celery is chiefly due to highly volatile oils which may be entirely lost if heated for any length of time. Capsicum is a more stable flavor, but if overheated during processing, will be easily oxidized and turn rancid quickly.

In some extractions, such as those of caffeine, vanilla or the berry fruits, improper acidity or alkalinity may affect the yield and the quality.

In the process of leaching, solvent diffuses inside the cell walls to dissolve the oils there. This process of solution is done fairly quickly, but the limiting factor in the extraction is the rate of washing of the thick solution of oil from the outside of the solid particle. The theory of the leaching process and its mathematical treatment are taken up in Badger and McCabe's *Elements of Chemical Engineering* (McGraw-Hill, 1945).

The simplest method of leaching would be to put the material to be extracted—crude drug, spice, flavor or perfume material—into a beaker with ten to twenty times its weight of solvent, stir it vigorously for ten minutes or so, perhaps with some warming. This dissolves the oils held in the cells. When the solvent has taken out as much oil as it can, the resulting solution is drained off.

The equilibrium point of this operation can be roughly estimated by comparing the depth of color of the solution, its viscosity or specific gravity. The solvent is removed by distillation and the residue after this treat-

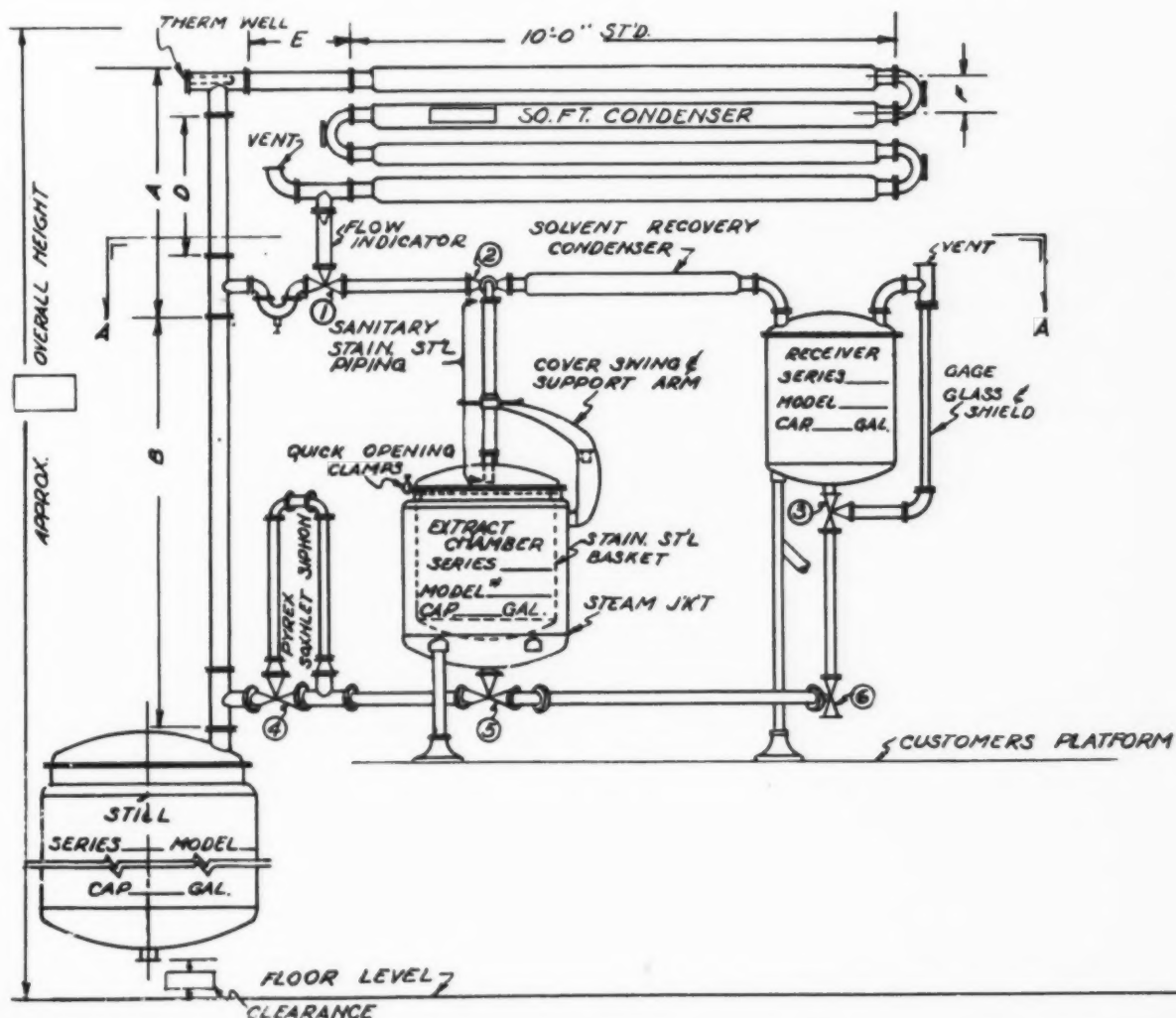
ment will contain the oil and flavor from the spice.

Obviously, this method is not suitable on a commercial scale without many refinements. Too much solvent would be needed, and too much oil would be left in the spice after equilibrium had been reached. Provision must be made for solvent recovery from the exhausted spice. Solution of these problems led to the development of leachers or percolators used in the tanning industry and by drug makers. Walters' *Manual of the Essence Industry* (Wiley, 1916) had a description of percolation that has not changed greatly through the years.

USE PORTIONS OF SOLVENT

One improvement on the primitive method above would be to divide the solvent to be used into three portions, adding and draining one after the other. The first wash would wet the spice and penetrate inside the cell walls to remove most of the oil. Succeeding rinses would remove the oil from the surfaces of the solids.

In practice, the leaching is done in several tanks or barrels set in a row or in a circle around a still. Each



A commercial Soxhlet extraction and concentration assembly



TALL 4986—3 oz.



4984—2 oz.



4983—1 oz.



4982—½ oz.



4880—¼ oz.



4981—⅙ oz.

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by HAZEL-ATLAS

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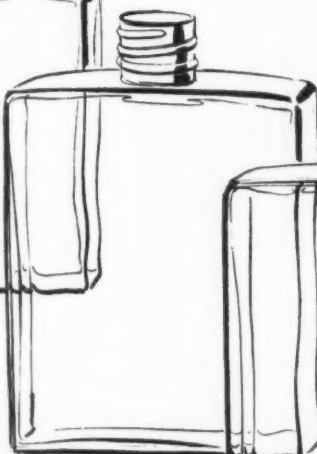
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Wheeling, West Virginia

tank is equipped with a stirrer. The anchor type agitator is preferred although a centrifugal pump taking suction from the bottom and discharging to the top of the vessel may be used. Gunther's book on Essential Oils mentions use of a revolving barrel to mix solvent and solids. Y. R. Naves' book on Natural Perfume Materials shows similar methods in use in the perfume industry in working up flower petals.

The leaching tanks would have a false bottom of fine screen about a quarter of the distance from the bottom and a side-opening door out of which the spent spice could be shovelled. To remove the solvent, a sparger tube is placed in the bottom to blow steam through the spent spice. A steam jacket can be used for this heating to avoid mixing the solvent with water. However, the tightly packed bits of exhausted pepper or celery have a very low rate of heat transfer.

For solvent recovery, and to keep the fumes from the working spaces, the containers must be tightly covered with a vent to the condenser.

The extractions are done in the usual counter-current manner. Fresh solvent is poured into a barrel in which there is spice which has already been treated one or more times. This fresh solvent takes out the last of the remaining oil in that batch of spice. The resulting dilute solution goes to one, two or more other containers of spice where it is progressively enriched with more extract. Its last use is to soak a new charge of pepper. After three or four washes, the resulting solution should contain 95 per cent of the available oil. This is filtered, then sent to the still for recovery of the solvent and production of the finished oleoresin. Refinements include the use of vacuum stills with stirrers and steam spargers to take out the last traces of solvent. Bubbling nitrogen through the oleoresins is a method used with fair success. Less than 0.1 per cent of acetone can easily be detected in capsicum after it has been standing in a closed container for two weeks.

In the Soxhlet extraction method, the leaching vessel and the still are combined somewhat in the manner of a coffee percolator. In the leaching process described above, cold solvent is taken from storage and used to wash the spice; the washings are then sent to the still for separation of the solvent from the oleoresin. Soxhlet's development combined these two operations and led to continuous extraction. Solvent is boiled off from the still and the condensate led through layers of spice in a container set higher than the still. When this upper vessel fills with solvent, it empties back into the still by means of a siphon, carrying with it oils taken from the spice. Back in the still, the solvent again boils off while the extract accumulates there. After the spice is exhausted, the solvent is distilled to leave the finished oleoresins.

The apparatus can be built as illustrated.

In designing the extraction apparatus, it must be remembered that the lower the boiling point of the solvent, the cooler the water and the greater the condenser surface must be.

The laboratory Soxhlet extractor is a simple piece of apparatus. However, when its size is multiplied several hundred times for commercial work, care must be used and chemical engineering factors taken into account to be sure the equipment is in the proper proportion.

The boiler, or still, should be related in size to the extraction chamber. It must hold enough solvent so that as

the boil-up goes along, the chamber, or basket, will fill until the siphon level is reached. At that point, there must still be enough solvent left in the boiler to keep the extract from being overheated. Too large a boiler is an unnecessary expense, and needs too much solvent for optimum heat transfer conditions.

The limitations on the amount of solvent distilling per unit time are the capacity of the condenser and the allowable rate of flow through the layers of spice. Too fast a flow will cause channeling and prevent thorough extraction. The siphon line should be small enough so that its upper neck will fill completely to start the siphoning action. Too large a siphon line will carry off the overflow from the extraction basket without filling the line. To start the siphon, the top of the siphon line must hold liquid rather than air to create the vacuum which starts the action and then drains the basket to its bottom.

It has been shown that soaking of the cake before extraction will often improve the yield and will almost always save steam by making for a faster extraction. That is, the spice should be wet with solvent and allowed to stand overnight before working. Batches treated this way will require fewer fillings and dumpings. An interesting study of this was made by Faith, Peterson and Smutz (Food Industries, Oct. 1941). The work was done on soy bean and sardine meal extraction but the results and methods hold for spice oleoresins as well.

In an even larger operation, some modification of the Allis-Chalmers or Bollman* type might be used. This apparatus has been developed for soybean and more recently for cotton seed oil extraction where several hundred tons per day would be treated. These extractors are for continuous rather than batch extraction. They feature a mill for grinding, and then a screw conveyor to carry the solids up an incline against a downward stream of solvent. The flow of solvent down and of spice up is adjusted in speed and volume so that when the spice reaches the top of the incline, it has had all of its oils removed. From there, it goes through a drying chamber where the solvent is heated off and recovered. At the bottom of the first conveyor, solvent rich with extract is led to a still when the solvent is distilled and the finished oleoresin removed.

This method is only used where tons of material are worked up each day. Possibly one of the pilot plants of this type might be adapted for spice extract production. Labor and running costs are extremely low, but the initial cost is high and start-up time would be long in the case of change-overs.

* Bailey, A. E., *Industrial Oil & Fat Products*, pp. 479-498.

Fruit & Syrup Group Meets May 19

The National Fruit & Syrup Manufacturers Association, headed by Ira S. Brightman, president, will hold its Thirty-Second Annual Convention at the Drake Hotel, Chicago, Ill., May 19, 1949. This Association, enjoying a National membership, will present a very interesting agenda. Speakers of prominence in the industry will speak of matters of vital importance. All members are strongly urged to attend.



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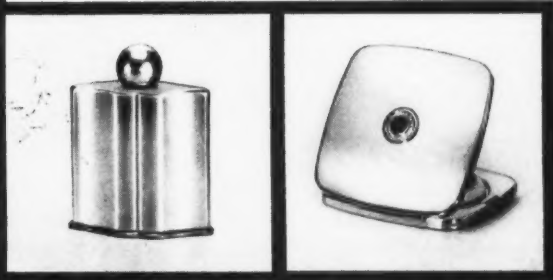
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SOAPS

Indonesia Palm Oil Situation

Acreage and production of palm oil in the Federal districts of Indonesia continued to increase during the third quarter of 1948. At the end of September there were 129,134 acres planted, of which 128,339 acres are located in the East Coast and Palembang districts of Sumatra, and the remainder in Java. Production of palm oil rose from 3,979 metric tons in June to 7,336 tons in September and palm kernels from 992 tons to 1,795 tons. Total production during the first nine months of 1948 amounted to 33,882 tons of palm oil and 8,056 tons of kernels. It is officially estimated that the totals for 1948 will reach 56,000 and 11,000 tons respectively.

Exports of palm oil and kernels increased steadily during the first 8 months of 1948, reaching a high point in August. Shipments were down in September because of the lack of shipping. Shipments for the 9 months totaled 25,883 tons, of which 25,297 tons went to the Netherlands, 487 tons to Sweden, 55 tons to China, 23 tons to Siam, and 11 tons to India and Pakistan.

New Soap Plant

A new soap plant is to be constructed at 6715 McKinley Ave., Los Angeles, Calif. for the Far Best Corp. It is to be 30 x 50 ft. in area, and to cost \$5500.

1947 Soap and Glycerin Production

Manufacturers in the Soap and Glycerin Industry shipped products valued at \$1,085.8 million during 1947, according to preliminary figures released recently by the Bureau of Census, Department of Commerce. This is an increase of about 259 per cent over \$302.6 million value of products reported by this industry in 1939, when the last Census of Manufacturers was taken. Value added by manufacture in the industry during 1947 amounted to \$450.7 million, an increase of approximately 218 per cent over the \$141.6 million value added in 1939. Value added by the manufacture is calculated by subtracting cost of materials, supplies, containers, fuel, purchased electrical energy, and contract work from the value of products. For some purposes, particularly for comparing one in-

dustry or group of industries with another, it is the most satisfactory Census measure of the economic importance of an industry.

Average employment in the industry amounted to 27,660 in 1947 as compared with 20,191 in 1939. Salaries and wages paid to all employees increased about 183 per cent, from \$33.1 million in 1939 to \$93.6 million in 1947. The industry's expenditures for new plant and equipment during 1947 totaled \$24.1 million as compared with \$8.7 million for 1939.

These statistics are derived from a preliminary tabulation of manufacturers' reports in the 1947 Census of Manufacturers. Final and more detailed figures will appear in the Census publication, "Soap and Related Products," which will be published and offered for sale by the Superintendent of Documents in the near future.

French Soap Output Up

Soap production in France during October 1948 totaled 25,284 metric tons against 24,870 tons in September. The average monthly production during the 10-month period of 1948 was 20,679 tons against a monthly average in 1947 of 17,382 tons and in 1946, 13,469 tons.

Olive Oil Plant

An olive oil producing plant has been completed on East Belmont Ave. between Temperance and De Wolf Aves., Fresno, Calif., by S. J. Schiavon. Former oil plants operated by him were on Lewis Ave., and then on Tyler Ave. The new factory combines all his activities in olive oil production and is equipped with two presses with a capacity of 18 tons of olives per day. Storage bins will handle 50 tons at a time. The plant covers an area of 50 x 36 ft.

Diamond Alkali Doubles Output

Diamond Alkali Co., Cleveland, Ohio, has more than doubled its output of sesquicarbonate of soda crystals, according to a company announcement. Newly enlarged and modernized facilities for the manufacture of the crystals at the company's Painesville plant have cost a quarter-million dollars.

WASHINGTON PANORAMA



by ARNOLD KRUCKMAN

THE additional hearing by the Federal Trade Commission concerning the proposed trade practice rules for the Cosmetics and Toilet Preparations Industry was finally held on March 24 in Washington, under the chairmanship of Director Henry Miller of the Bureau of Trade Practice Conferences. It is sharply indicative of the tentative character of any proceeding by any subordinate part of the Commission, (until any action has been formally approved by the full Board), that this paragraph was published in the call for the second hearing: "The Commission announces in respect of the hearing held in this proceeding on February 10, 1949, that Mr. Philip R. Layton, an attorney on the staff of the Commission, did not make his presentation for or on behalf of the Federal Trade Commission. His presentation and suggested amendments to the proposed rules may be regarded as merely expressions of his own views."

As a matter of precise fact, it is not usually understood, but it is true that any action, or any proceeding, not actually stemming from the Commission itself as a formal statement or ruling, is not valid as a decisive action. In other words, what any official of the Commission does, or what any subordinate part of the Commission may do, preliminary to the formal proceedings, may be disavowed by the Commission. Obviously, this is not a very comfortable situation for members of any affected industry, nor for the subordinate officials of the Commission. To the outsider it appears to be the very extreme of ultimate caution. At the present time the situation is even worse than usual because Commissioner Freer has gone, and no one has been appointed in his place. This precipitates a situation among the contending commissioners which permits much stalling and shadow-boxing and delay. It is still hoped that the President will soon announce the appointment of former Executive Director George F. Meredith, of the Senate Small Business Committee, as the Republican member of the Commission in Freer's place. It would fill many uncertainties.

Since the Commission made so much of the "unauthor-

ized" character of Mr. Layton's suggestions and proposed amendments it will be interesting to turn the spotlight of quotation upon them: "Amendment to paragraph VII, page 5,—For guidance and assistance of the industry in the application of the requirements of this Rule 1, the following are stated to be illustrative of plans which may meet the requirements of the above paragraphs numbered III and IV *respecting use of demonstrators*."

"Plan A, page 5, paragraphs III and IV,—Demonstrator service may be accorded or made available on proportionally equal terms to all competing dealers or customers by any member of the industry, by furnishing such service in exchange for services and facilities, unspecified in units of themselves, reciprocally furnished as terms to the industry member by such dealers or customers. The measure of the value of the demonstrator service furnished is the total compensation paid to or for the clerk called demonstrator and the measure of the value of such reciprocal services and facilities furnished as terms is the net purchases of such dealers or customers from the industry member."

"Paragraph 2, Plan A, page 5,—Such demonstrator service, or similar service, and the same terms upon which such demonstrator service is accorded, or similar terms, shall be proportioned both upwards and downwards to the degree necessary to make it reasonably possible for each of such competing dealers or customers to avail himself of that amount of service upon that amount of the terms to which he is entitled on a proportionally equal basis; and such amount of service upon such amount of terms shall be furnished to each of such competing dealers or customers, if he so desires; provided, however, that before an industry member may furnish demonstrator service on similar terms or a similar service on the same similar terms, to any such dealer or customer, the latter shall state in writing that he does not desire to avail himself of demonstrator service on the same terms, but that he does desire to avail himself of demonstrator service on similar terms, or of a similar service on the same or similar terms: provided further, however, that in the event any such dealer or customer makes such statement in writing, an industry member shall furnish to such dealer or customer demonstrator service on terms which such dealer or customer deems to be similar to the terms upon which demonstrator service is accorded; and the amount of any such service or similar terms shall be equal in value (to such dealer or customer making such statement) to the amount of such demonstrator service and to the amount of such demonstrator terms to which he is en-

titled but of which he does not desire to avail himself; and a statement acknowledging the existence of such equality shall also be made in writing by such dealer or customer; and, provided further, however, that such similar service shall be furnished on the same or such similar terms in the same manner to any other dealer or customer in lieu of demonstrator service on the same terms, if any such other dealer or customer makes such written statements.

"Strike all of paragraph 3, Plan A, on page 5.

"Amend paragraph 4, page 6,—The industry member shall publish to all his competing customers and dealers a complete description of its plan for furnishing a demonstrator service, including a list of similar services to demonstrator service which he has made and is willing to make available in lieu of demonstrator service, and a complete description as to how each of such similar services has been or will be furnished. Such publication shall be kept as current and as correct as the industry member's price lists and invoices.

"Amend paragraph 5, page 6,—The period of purchases of the industry member's products which is selected by the industry member to be used for the purpose of the computation shall be uniformly applied to all said customers and dealers. The amount of demonstrator service or any similar service to be furnished or furnished during any such period shall be determined on the basis of the amount of purchases made during that period, or adjusted to that basis immediately after the close of that period, and not finally, though allowable temporarily, on the basis of purchases made in any other period.

"Amend paragraph 8, page 7,—This Plan A shall not require an industry member to furnish demonstrator or similar services to any purchaser who is not a customer, but under the statute the smallest purchaser who is a customer is entitled to the same rights and privileges as the largest customer. 'Customer' connotes a degree of regularity or repetition. A second transaction between a seller who is not required to sell and a purchaser who is not required to buy shows that both are pleased with the first transaction, and established the customer relationship that was indicated by the first. Ordinarily, a single transaction between an industry member and a dealer might not serve to make that dealer a customer of such member, if it involved only the minimum quantity in which such member dealt. If, however, during the period selected by the member a dealer purchased twice the smallest amount the industry member either had sold or delivered at one time during the same period to any competing customer, said dealer would be a customer, form in effect, he would have made two purchases and the member two sales. The customer relationship that was indicated by the 'first' sale would be established by both member and dealer by the 'second.'

"Amend paragraph 9, a, page 6, after word 'member' last line:—Provided, however, that any such disclosures shall not be required to be made in a manner which results in its not being reasonably possible for any dealer or customer to avail himself of demonstrator or similar service; for example, where a small dealer, with only one clerk to sell cosmetics, is entitled to, say, one-tenth of a fully paid demonstrator from each of two or more industry members, it shall not be required that such clerk wear two or more badges; provided, further, however, that if newspaper advertising is furnished as a similar service,

the dealer shall disclose in any such newspaper advertising, the total cost of the advertisements and the percentage paid by the industry member."

The quotations are important because, despite disclaimers, they are undoubtedly the basis of the thought of those persons in the various parts of the Commission who will formulate the final crystallization of the proposed trade practice rules.

CHANGE IN GENERAL PRODUCTS DIVISION

There has been another shift in that part of the Department of Commerce which interests the Cosmetics and Toiletries industry. Perry Stephenson, whose name has long been identified with the branch devoted to General Products of merchandise became very ill early this year and finally retired to seek complete rehabilitation in Texas. In the struggle which ensued for the control of his branch there finally emerged a new set-up which has taken on the name of Consumers' Merchandise Branch. It is headed by T. W. Delehanty, as director. As is well known in the industry, Delehanty has for years been connected with the Chemicals Branch, which is headed by C. C. Concannon.

When the essential oils and some drugs and materials were shifted to Delehanty's new division there went with them such personnel well known to the industry as Lester W. Barber, and Miss Eva Shutrump, and Sidney Picker.

While this is written they are still in process of being moved from the third wing of Temporal Building T to the fifth wing. The exact numbers of the rooms are not yet known. There is a rumor abroad that Delehanty is looking for some one to fill a job having to do with drugs. Mr. Concannon meanwhile continues to function in his old job as head of the Drugs Division. Both of these parts of the Bureau of Foreign and Domestic Commerce are, of course, in the half which has to do solely with foreign commerce. They include the men and women who pass on the licenses for export.

In that part of the Bureau which has to do with domestic business there also is a change of interest to the industry. Frank Bradley, for some time past head of the Chemicals and Drugs Section, which includes essential oils, has left the Bureau entirely and has joined the Atomic Energy Commission. Bradley, a Texan, has been very popular in his place.

We imported from Spain last year essential oils to the value of \$228,000. This is almost a 50 per cent reduction in the amount we imported from Spain in 1947, and 100 per cent less than we brought over in 1946.

State Department reports we imported last December from the Marseille Consular District essential oils to the value of \$48,583. In November, 1948, the Marseille District sent us essential oils to the value of \$55,596; in December 1947 we received only \$8,714 worth of the oils.

Most of the December shipment consisted of lavandin, although there were various quantities of bitter almond, geranium, jasmine, orange, violet, cassie, labdanum, lavandin concrete, and others.

From the United Kingdom the State Department brought the word that its imports last year of natural essential oils had a total value of \$4,000,000, compared with imports during 1947 which had a total value of \$11,200,000. The exports of essential oils from the United Kingdom in 1948 had a value of \$2,000,000, and in 1947 they totalled \$900,000.

Hints for Improving Production

A simple plan for making the inspection of each day's production more efficient. . . . Repackaging a line often saves money. . . . New and improved equipment for the plant

INSPECTION of each day's production the next morning is a practice that has much to commend it. No matter how careful inspectors may be in maintaining uniformity of fill height, the clarity of liquids, the net weight of creams in jars and tubes and the appearance of the finished packages, shortcomings are often detected; and with proper provision for reconditioning any opened containers, are readily corrected. To expedite the performance of this task Ralph H. Auch, the engineer, suggested some years ago the use of carefully prepared forms, one for each item packaged. The form he suggested for reporting findings on a liquid product was:

INDIVIDUAL CARTONS	CLOSURES
Registration	Tightness
Color	Flaws
Properly closed	
Scoring	SHIPPING CASE
Gluing	Exterior
	Clean
LABELS AND BANDS	Scuffed
Registration	Torn flaps
Colors	Flaps tightly glued
Straight	Taping
Properly spotted	CONTENTS
Glue smudge	Clarity
Adherence	Fill height
BOTTLES	INTERIOR
Design	Dust
Flaws	Partitions
Glass distribution	Fit

While the form need not be so detailed for many products it should however be all inclusive.

Repackaging Programs

Instead of involving added costs repackaging programs in many instances actually bring savings to the manufacturer according to Koodin-Lapow Associates. In some in-

stances, it has been shown that large companies have not only gained a more saleable package by redesigning it but a less expensive one as well. Sometimes this was accomplished by simplification of packaging forms and standardization of type of containers while in others the same end result was achieved through alteration of the package construction and the substitution of durable but less costly materials.

Fire Retardent Paint

A completely non-toxic fire retardent paint and coating is offered for industrial use by the Stallton Chemical Corp. Flame Seal, the new paint, is said to be easy to handle. It comes ready to use, requires no mixing of special ingredients and may be applied directly from its original container by brush or spray gun. Tests show, the company states, that it generates no smoke or toxic gases when attacked by fire nor does it give off toxic fumes while being applied. The company claims that when unpainted lumber is protected with a coating of Flame-Seal the wood can withstand a 2000 degree F. blow-torch for 30 minutes without any flame spread. When fire attacks wood which has been coated with it, the company adds, the paint undergoes a complete physical transformation forming immediately a white crust which forms a hard protective wall at least eight times the thickness of the original coating. It is also said to be moisture proof and termite proof and will not chip, peel or crack. It may be washed with any standard

soap or washing powder. It is available in an oyster white flat finish and is obtainable in quarts, 2 and 5 gallon cans and 55 gallon drums.

Hand or Foot Acid Pump

This improved hand or foot actuated pneumatic pump affords safe and convenient transfer of acids and other liquids from carboys, drums or barrels according to the General Scientific Equipment Co. Liquids are said to flow and stop instantly and come in contact only with the corrosion resistant tube. No tilting of the container is necessary and danger of a slip, a splash or a spill is minimized. When removed from



Pneumatic acid pump

the container the liquid drains completely. These pumps with lead tubes it is pointed out are suitable for sulphuric, hydrochloric and hydrofluoric acids as well as others.

Where the pump is to be used for nitric, citric, phosphoric, acetic acids, bleaches and others, Saran plastic tubes are recommended. The pumps are said to be especially useful wherever acids are handled in small measure.

New Screw Capping Machine

Plastic and metal caps of all shapes and sizes up to 70 mm. can be easily handled on the new Tite-Cap Screw Capping machine according to the Tite-Cap Machine Co., Inc. It is a single head fully automatic straightaway screw capper with a new type of automatic hopper and chute assembly for selecting and delivering the screw caps to the containers. The new hopper delivers the caps at a speed greater than normally required so as to assure an adequate supply of caps in the chute. A new type of chuck is provided to handle plastic caps without damaging or marring them. Small plastic caps for sprinkler top bottles are said to be handled with ease. An improved adjustable tension device is provided to prevent breakage of plastic caps and yet provide positive tightening to any required degree. Change overs from one size or shape of container to another may be made with a minimum loss of time, it is added, and practically any size or shape of bottle, can, jug or jar may be handled.

Electric Label Paster

Dual feed rollers on the Whirlwind Electric Label Paster, the Scientific Filter Co. states, rush the labels through, speeding up production so that one operator may supply several workers. It is designed to handle the smallest labels in commercial use and will take labels made from paper, light cardboard and cloth up to six inches in width as well as all types of embossed paper labels or metal seals. The complete machine occupies about a square foot of bench space. Power is supplied from an ordinary light circuit.

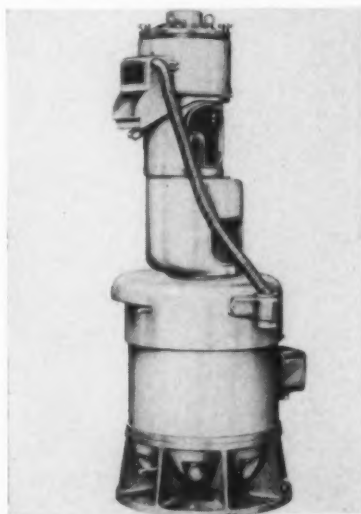
Gummed Tape Moistener

Answering the need for greater flexibility in gummed tape moistening, an improved pressure plate with a range of five settings is in-

troduced in the Counterboy 500 Series, a group of eight tape dispensers marketed by Better Packages, Inc. The device is pivoted and equipped with a movable weight, enabling the operator to adjust moistening pressure quickly to the exact requirements of the specific tape weight or glue formula. The water level on the machines is also adjustable. Another feature is the unbreakable plastic water fountain bottle. One model of the series, the Counterboy 500-A, is designed to measure tape strips of from 4" to 50" on the upstroke of the handle.

New Grinding and Mixing Mill

For grinding, mixing, dispersing, homogenizing and emulsifying the new Morehouse Speedline Mill No. SB2000 is offered by Morehouse Industries, Inc. It is said to have a capacity of over 500 gal. per hour and is suitable for a wide variety of materials wet or dry. The unit is 5 ft. 9 in. high and 24 in. in diameter. The only electrical connection necessary is a simple socket plug-in. Various motors are available. Grind size may be adjusted without stopping. All parts are interchangeable



New fast mixing mill

and the take down for cleaning between runs or changeover for different materials is stated to require only a few minutes.

Quick Acting Soldering Tool

A new quick action soldering tool designed to provide an effective and efficient means for high speed precision soldering is announced by

the Appliance Division of the Housing Foundation. The new tool called Pres-to-Heat, makes it possible, it is claimed, to complete the average soldering job in less than two seconds. The tool is plastic and weighs 4½ ounces. It resembles a long nosed pliers and has an actuating lever on the handle. A slight pressure on this lever enables the operator to hold the work securely and additional pressure causes the current to flow through the work, generating instantaneous heat at the point of contact. A slight touch of solder and the joint is completed.

New Low-Range Air Cells

For use on testing machines of any type to give high precision measurement of small loads such as in testing plastics, paper and other material and also for such use independently for weighing chemicals or controlling chemical processes two new Tate-Emery air cells are announced by the Baldwin Locomotive Works. The new cells have load ranges of 0-1.2 to 0-6 lb. and 0-2 to 0-10 ub. in tension and compression. When a standard Tate-Emery Indicator with 66 in. scale is connected with the cell the 0-2 lb. range shows a point movement of 1/16 in. for one gram.

Producing Demineralized Water

A unit for converting tap water into demineralized water equal to distilled water at a low cost is announced by the Penfield Manufacturing Co., Inc. It is a cartridge model unit with a flow capacity from 5 to 8 gph. The unit is self contained and it is pointed out that the cartridges are easily replaced. No heat or steam is required to operate the unit and the makers say that the water delivered is free from calcium, magnesium and heavy salts. The cartridge comes packed with 4-bed activated ion exchange resins and has a capacity for removing approximately 1100 grains of ionized minerals, expressed as CaCO₃, before becoming exhausted. The unit consists of three parts: the removable cartridge, a cast aluminum wall bracket and an electronic conductivity controller which measures the quality of the treated water. This unit is made to sell at a moderate price. Large industrial models are also available.

THE WORLD'S

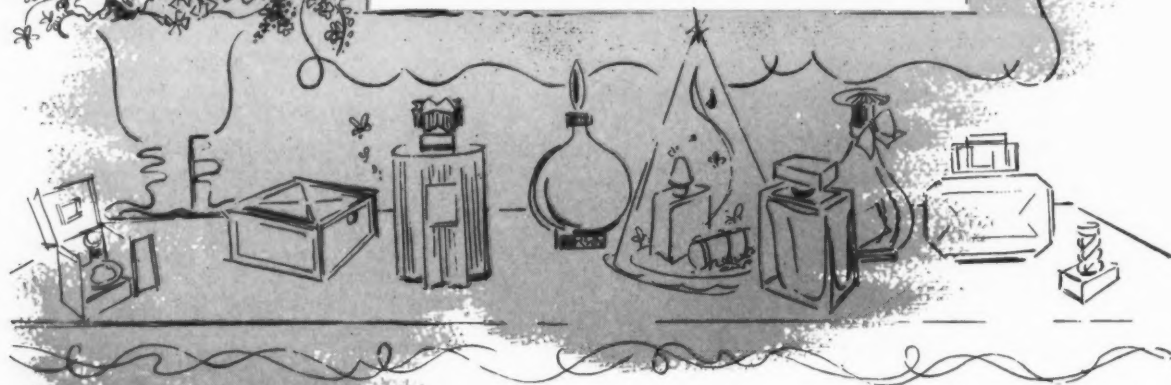
finest perfumes

ARE MADE WITH

D & O

**PERFUMERY
MATERIALS**

D & O can supply either the finest
in raw materials or in perfume compounds,
depending on the particular requirements
of the creative perfumer.



☆ **COLONIAL 14**—Oriental bouquet with an overtone of Jasmin.

☆ **FLORIA 529**—Muguet—rose bouquet, always popular.

☆ **KAPRIFOL**—Modified honeysuckle odor.

☆ **SOIREE 317**—Floral with dry, woody, oriental undertone.



DODGE & OLCOTT, INC.

180 Varick Street • New York 14, N. Y.

ATLANTA • BOSTON • CHICAGO • CINCINNATI • DALLAS • LOS ANGELES • PHILADELPHIA • ST. LOUIS • SAN FRANCISCO

ESSENTIAL OILS • AROMATIC CHEMICALS • PERFUME BASES • VANILLA • FLAVOR BASES

NEW PRODUCTS AND PROCESSES

Detergent Dust Prevention

A light amber liquid synthetic detergent for preventing dusting of powdered and dry detergent mixes is being offered by Monsanto Chemical Co. The product, said to be 100 per cent active and nontoxic, is sold under the trademark Sterox CD. It is claimed the product will prevent dusting at no extra cost because it can replace an equivalent amount of other surface-active agent. It can be atomized into the dry powder, or introduced as a pilot-mix with other ingredients. It may also be used in mechanical washing compounds because of its low sudsing tendencies and excellent detergency.

New Dust Base

Introduction of a new dust base which controls a wide range of insects attacking crops, but leaving no harmful toxic residues on vegetation, has been announced by U.S. Industrial Chemicals Inc., New York, N.Y. The dust base, known as CPR Dust Base, is a combination of a new chemical, piperonyl cyclonene, with pyrethrins and rotenone, so formulated as to obtain maximum effectiveness of the potent ingredients. The company states that by including pyrethrins in the combination its effectiveness is increased between two and three times. The base, available to manufacturers of insecticide, is offered in a uniform blend, so that it mixes with dilutants and fungicides without difficulty.

Laboratory Balance

A new, torsion-principle balance, for general laboratory use, is being manufactured by The Torsion Balance Co. Styled by Raymond Loewy Associates, the instrument is encased in a metal case with heavy hard-surfaced fire glass panels set in rubber gaskets. Dust has been excluded to a notable degree. Torsion bands are of a newly discovered al-

loy said to virtually eliminate the hazard of corrosion. All exposed metal is corrosion resistant: Balance pans are of polished stainless steel. The balance has a sensitivity rating of 2 milligrams and a capacity of 120 grams.

Grooming Aid

An inexpensive grooming aid, in the form of an atomizer, has been



Lacquer Atomizer

put on the market by Plastal Specialties Co. The atomizer sprays a thin film of lacquer on the hair to hold it in place. The liquid container is molded of Polystyrene, making it lightweight and easy to handle. The atomizer will stand upright because the bulb is flat on the bottom.

New Catalogs

A considerable amount of new information on Hercules CMC, cellulose gum, is included in a revised technical booklet on the chemical just released by Hercules Powder Co. Included in the new information, is the fact that studies have indicated the purified-food-grade-type is suitable for incorporation into foods and pharmaceuticals. Hercules CMC is said to be finding wide usefulness in the food, cosmetic and pharmaceutical industries. This water soluble gum

may be used for viscosity control, as an emulsion stabilizer, as an ointment base, as a water-soluble film-former, or as a suspending agent.

Norda Essential Oil and Chemical Co., Inc., New York, N.Y., has just issued a 24-page price booklet on Norda flavors. There is a complete listing of the entire line. Copies are available upon request.

In view of the abundance of chemical processes and compounds in which hydrogen is involved, a compilation of thermal properties of hydrogen and its various isotopic and ortho-para modifications has been published by the National Bureau of Standards. Research Paper RP 1932, *Compilation of Thermal Properties of Hydrogen in its Various Isotopic and Ortho-Para Modifications*, by Harold W. Wooley, Russell B. Scott and F. G. Brickwedde, 96 double-column pages, 101 tables and graphs, 40¢, may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C.

Commercial Chemical Development is the title of a leaflet offered by R. S. Aries & Associates.

Tennessee Eastman Corp., Kingsport, Tenn., has issued a revised edition of its book, *Eastman Cellulose Esters*, available upon request. Included in the contents are the latest data on specifications and characteristics of the standard types of Eastman cellulose esters—cellulose acetate, cellulose triacetate, and cellulose acetate butyrate—together with information on their uses with solvents, plasticizers and resins.

Nuemann-Buslee & Wolfe, Chicago, Ill., has issued a new price list on essential oils, certified colors, gums, aromatic chemicals, etc. Copies may be obtained without charge.

THE ROUND TABLE —

Hollenberg Heads Van Dyk & Co.

At a meeting of the directors of Van Dyk & Co., Inc., Belleville, N.J., the following officers were elected: I. R. Hollenberg, executive vice-president; Mrs. Samuel Isermann, vice-president; Howard P. Isermann, secretary-treasurer; Helen V. Shanahan, assistant secretary. In memory of the late Dr. Samuel Isermann, the founder and former president of the company, the office of president is being allowed to be vacant at this time. The directors are: I. R. Hollenberg, Mrs. Samuel Isermann, Howard P. Isermann, Ernst Ohlsson, and Everett P. Smith.

Operations will be conducted under the direction of the executive vice-president, Mr. Hollenberg, who has been actively associated with the company for a number of years in a technical and managerial capacity.

Voters by Record Vote Draft Luis de Hoyos for Mayor

A striking tribute to his ability as a leader was accorded Hon. Luis deHoyos, vice president and general manager of Synfleur Scientific Laboratories in his absence in Florida last month when the voters of Monticello, N.Y. elected him mayor by the largest majority that has ever been registered in his 17 years of service as a public official.

The election was more than a tribute to his executive ability and his skill as an administrator; it was a vote of appreciation for the able, the whole hearted and the progressive way he served the municipality in the 12 years he was mayor before ill health compelled him to relinquish all public work. It came not only from the leaders of the Republican party but from the people themselves—from 80 per cent of the voters regardless of party. In its report the New York Times suggested that Mr. deHoyos who is also Sulli-

van County chairman of the Republican party might advise his old friend Gov. Thomas E. Dewey how it was done.



Mayor deHoyos

When the nomination was offered to him Mr. deHoyos was regaining his health in Florida. He declined the nomination by telegram but the party leaders rejected his decision and nominated him anyway. The voters, the people with whom he has lived and worked for years, confirmed that decision.

Mr. deHoyos enjoys an international as well as a national reputation. Despite his strong Republican affiliations he was chosen by either the late President Roosevelt or the State Department to represent the North American delegation as technical advisor at the Inter American conference in Santiago de Chile a few years ago. Mr. deHoyos returned with his family late in March from Florida much improved in health.

Lewis Bernstein Opens New Office

Lewis G. Bernstein, prominent in legal sphere of the industry, has removed his law offices to 20 Pine St., New York, N.Y. The phone number is DIgby 4-8182. An uptown office will be maintained at 730 Fifth Ave.

Cosmetic Sales Up in 1948

The Toilet Goods Association estimates total sales at retail prices of perfumes, cosmetics and other toilet preparations, not including toilet soaps, at \$687,600,000 for the year 1948. This compares with \$682,100,000 in 1947, an increase of approximately 0.8 per cent.

Sales of taxable cosmetics increased from approximately \$453,400,000 to approximately \$464,600,000, allowing for the customary lag in reporting. This is an increase of about 2 1/4 per cent and is accounted for in a large measure by a great increase in the sale of preparations especially designed for use on the hair. Sales of non-taxable cosmetics appear to have fallen about 2 per cent below the previous year due to a drop in sales of dentifrices and shaving creams, which was not offset by a steady rise in sales of non-taxable shampoos.

Department store sales for 1948 declined by nearly 3 per cent. Sales in drug stores increased and variety store sales were sharply higher for the year.

May 20 Set for Spring Meeting of SCC

The Spring meeting of the Society of Cosmetic Chemists will be held in New York, May 20, at the Biltmore Hotel. Communications concerning technical papers for the meeting should be addressed to Dr. S. D. Gershon, 6901 West 65 St., Chicago 38, Ill.

TGA Convention May 17-19

The annual convention of the Toilet Goods Association, Inc., for 1949 is to be held at the Hotel Waldorf-Astoria, New York, N.Y., May 17-19.

Smith Victory in New Quarters

Smith Victory Corp., sole agents for Worth, Suzanne and Vigny, has removed its offices and showrooms from 9 East 38 St., New York, N.Y., to 56 West 57 St.

Ralph Dysart Appointed by Penick

Ralph B. Dysart has been appointed Mid-Western sales representative for S. B. Penick & Co., New York, N.Y. His headquarters will be in the firm's Chicago office. Mr. Dysart's father, T. B. Dysart, has been with Penick for the past 35 years as manager of the Southern plant at Ashville, N.C.

Scientific Section of TGA Announces Program

The Scientific Section of the Toilet Goods Association, meeting May 19, at the Waldorf-Astoria Hotel, has announced the following program: Use of Drugs in Cosmetics by Dr. Erwin Di Cyan; The Aging and Stability of Essential Oils and Aromatic Chemicals in Soaps and Cosmetics by R. J. Huttleston; Identification of Certain Coal Tar Colors Used in Cosmetics by Kenneth A. Freeman; Odor and Olfaction by Dr. Paul G. Lauffer; On the Structure and Synthesis of Irones by Dr. Yves-Rene Naves (to be read by title only); Olfactory Evaluation of Aromatic Raw Materials by Samuel Klein; Beneficial and Adverse Effects of Soaps Upon Skin as Determined by Repeated Exposure Tests

by Dr. John A. Killian; A Discussion of a Control System by P. C. Wieseman and By-Product Citrus Oil by Saul A. Bell.

Roscoe Edlund Becomes Plans Board Chairman

Roscoe C. Edlund is now Plans Board Chairman of Fred Rudge, Inc., New York, N.Y., of which com-



Roscoe C. Edlund

pany he is also a director. Mr. Edlund has also been elected one of five Honorary Life Members of Trade Association Executives in New York.

Dahl Becomes Vice-President of Bourjois

Paul H. Douglas, president of Bourjois, Inc., New York, N.Y., has announced the election by the Board of Directors of Norman F. Dahl as vice-president in charge of sales and advertising.

It was further announced that

Robert L. O'Brien, wholesale sales manager, and Nelson Millard, former executive in the sales department, will serve the firm as joint sales managers.

Wirz Employees Feted

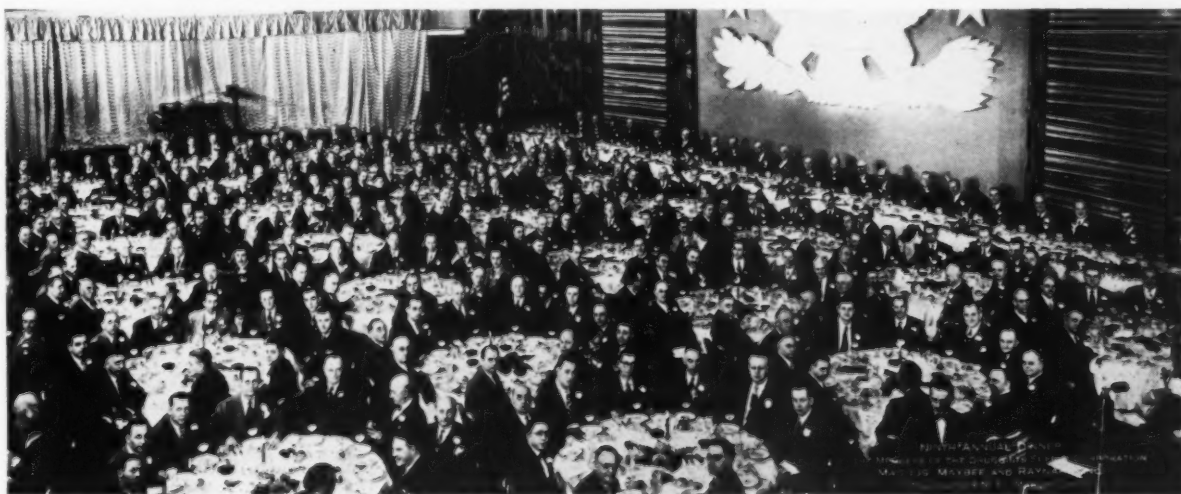
One hundred fifty-eight employees of A. H. Wirz, Inc., Chester, Pa., were awarded service pins for their service records, ranging from five to fifty years, at a dinner in their honor March 14. Two other employees retiring after 29 and 15 years of service, respectively, were presented with certificates commending them for their years of faithful service.

Dr. Moore Retires

Dr. William Moore a member of the research staff of U.S. Industrial Chemicals, Inc., New York, N.Y., has retired after 29 years of service with that firm.

Bush Aromatics Now Represents Laboratories Synarome

Henri Robert Inc., 39 West 60th St., New York, N.Y. announces that as of March 23, 1949, it has ceased representing Laboratoires Synarome of Asnières (Seine), France. This decision was taken by mutual consent and it will in no way affect the friendly relations they have enjoyed in the past. Bush Aromatics Inc. of 136 Liberty St., New York, N.Y. is now the representative of Laboratoires Synarome in this country.



Annual dinner for members of the Druggists Supply Corp. and its manufacturing associates tendered by Magnus, Mabee & Reynard, Inc., at the Grand Ballroom of the Hotel Statler, New York, N.Y., March 5. More than 400 guests were present. The dinner was preceded by a cocktail party.

ISCOOPERATION News

The Voice of
INNIS, SPEIDEN & CO.

117 Liberty Street, NEW YORK 6, N. Y. • BOSTON • CHICAGO • CINCINNATI • CLEVELAND • GLOVERSVILLE • PHILADELPHIA

ABSORPTION BASE, Cans, Drums
ACIDS: *Acetic*—56% Glacial. Bbls. & Carboys
Benzoic—Bbls., 100 lbs.
Boric—99½% and U.S.P. Pow'd Gran
Bbls., 300 lbs. Bags, 100 lbs.
Formic—85% and 90%. Water White, Car
boys, 130 lbs.
Oxalic—99½% Crys. Bbls., 300 lbs. Kegs.
125 lbs.
Tannic—Tech. and Conc. Bbls., 300 lbs
Clay Bags 50 lbs.

ALGIN

ALUM—Ammonia
Bbls. & Bags

ALUMINA—Sulph
Bags, 100 lbs.

AMMONIUM—Bif
Carbonate—Pow
Kegs.

Chloride (Sal Am
100%. Bbls., 2

AQUA AMMONIA

AEROSOLS—see

BARIUM HYDR
400 lbs. Bags, 1

Barium Sulphate
Bbls., 250 lbs.

BENTONITE—Ba

BLANC ROUGE
Rouge. Bbls.,

Kegs, 50 lbs.

BLEACHING PO
100-333-825 lb

BORAX—Pow'd.
100 lbs.

CALCIUM CHLO
CARBON TETRA

lbs.

CASEIN—Gran. Ba

CHALK—Precipita
U.S.P. Bags.

CHINA CLAY—Im
lbs.

CLAY—Bleaching a

CHLORIDE OF I
der

CHLORPICRIN—

CRYSTAMET—Se
Hydrate.

DRYMET—See So

DRYORTH—See S

DRYSEQ—See Sod

ELECTROTYP

EMULSIFIERS (C

EPSOM SALTS—T

FERRIC CHLOR
Bbls., 500 lbs.

Ferri Chlor—Ferri
ment. Bbls., De

FLINT—Prime wh
or in Bags, 50 lb

FORMALDEHYDE—
and Drums.

FUMIGANTS: see

Larvacide
Methyl Bromide
Isobrome

GLAUBER'S SALT—Calcined—Bags—100

lbs

GUMS:

Arabic—Amber sorts, Pow'd and Grained.
Bags and Bbls

Ghatti

Karaya—Pow'd., Crystal and Whole

Locust Bean—Powdered.

Tragacanth—Ribbon, Flake and Powder

IRISH MOSS—Whole, Bales, Pow'd. Bbls.

IRON CHLORIDE—(See Ferric Chloride).

ISCOBROME—Fumigant—Drums, 5 gal. (40
lbs.); 30 gal (250 lbs.)

ISCOBROME D"—55 gallon drums.

ISCO INSECTICIDE SPRAY—1 Gallon Cans
and 5, 30 and 55 gallon drums.

ISCOMIST AEROSOLS—5 lb. Bombs.

Green 36 and 4

SERVACIDE INSECTICIDE SPRAY—1 Gal-
lon Cans and 5, 30 and 55 Gallon.

SILICA—ISCO Carrara Pure Soft Decomposed.
Prime white and uniform—99½% pure;
325 mesh. Bags.

SODAS:

Acetate—Anhydrous—Drums, 265 lbs.

Ash—58%, light and dense. Bags, 100 lbs.

Benzoate—Bbls., 100 lbs.

Bicarbonate Powder—U.S.P. and Technical.

Bags, 100 lbs.

100 lbs.
Fluoride—Bbls. 350 lbs.

65% Bbls., 430 lbs.

%, Drums, 700 lbs.

Drums, 100 and 400

Drums and Tank

enta Hydrate. Bbls.,

Paper Bags. Anhy-

%, Bags, 100 lbs.

100 lbs.

Tribasic—Bags, 100

ically anhydrous—

100 lbs.

(Glauber's Salt)—

Flake. Drums, 300-400

Calcium. Lead, Lith-

unity Supreme

White

4 OXALATE—Kgs.

leached—Refined.

ht and Medium.

d Refined. Lump,

No. 2 Yellow, No.

y—Refined in the

dered. Bags, 150-200

ow, White. All melt-

and 200 lbs.

Japan Wax Substitute, No. 525

Montan-Bohemia Brand

Montan Wax Substitutes, Powdered—Lump

and Bleached.

Molding Wax for Electrotypers.

Ouricury—Domestic—Refined. Bags, 150 lbs.

Ozokerite—Domestic—White and Yellow. All

melting points.

Palm

Spermaceti

Wax Substitutes—All Types.

ZINC CHLORIDE—Gran. 98-100%. Drums,

600-100-50 lbs.

ZINC STEARATE—U.S.P. Cartons, 50 lbs.

ZINC SULPHATE—Granular 69%. Bbls. and

Bags

ISCO ABSORPTION BASES

This Oxycholesterol preparation, specially designed for better creams, lotions, ointments and salves, is available in cans and drums. Made entirely of chemically pure substances ISCO Absorption Bases are absolutely neutral, will not oxidize nor turn rancid, and are stable to acids or alkalies. These Absorption Bases will absorb up to five times their weight of water and hold it in an emulsion. Tell us your specific problem. ISCO will help you solve it with specifically designed Absorption Base.

Among the Creams that have been made successfully with
ABSORPTION BASES are:

All Purpose Creams • Night
Creams • Cleansing Creams • Powder Base Creams • Hand
Creams • Hair Creams • Pre-Shave Creams.

ISCO BASES have been used in a variety of Pharmaceutical
ointments, such as:

Sulphur • Hormone • Vitamin, etc.

Cars and Drums, 675 lbs.

Caustic—Special low chloride grade. Tank

Cars and Drums.

Caustic—Flake. Drums, 100-225-400 lbs.

Ground, Drums, 100-225-500 lbs.

Caustic—ISCO American Selected Walnut.

Drums, 100-225 lbs

Chlorate—Pow'd and crys. drums, 220-300

lbs.

Muriate—(Chloride) 99%. Bags, 100 lbs.

Nitrate—Double Ref'd. Gran. 99½-100%

Bbls., and Bags.

Permanganate—U.S.P. and Technical Crys

als Drums, 110 lbs

Food Distribution Exposition

A food distribution exhibition, the first show in the field to cover all phases of the trade, is announced by the U.S. Wholesale Grocers Association, to be held in St. Louis, Mo., May 30-June 1. Exhibits are to cover food, allied products, office systems, packaging, warehousing, trucking, handling, modernization and inventory control.

Chiris Announces English Addresses

Antoine Chiris, Ltd., has announced that the administration of its business in England is being carried on at Bridge House, Tadworth, Surrey; telephone, Tadworth 2207. A sales office is located at Regional House, 82, Park St., London, W.1. The telephone number is Mayfair 3906.

Donald Keyes Honored by AIC

Dr. Donald B. Keyes, vice-president in charge of planning and development of the Hayden Chemical Corp., New York, N.Y., has been



Northam Warren, Jr., vice-president of Northam Warren Corp., Stamford, Conn., and Oscar Pando, vice-president in charge of South American operations, attend a sales meeting of the Buenos Aires staff of Palmer & Co., manufacturing distributor of Warren products. Seated left to right are: George R. Palmer, William D. Palmer, Northam Warren, Jr., Charles E. Palmer, Oscar Pando and Percy Bond.

awarded the first Honor Scroll of the New York Chapter of The American Institute of Chemists. The

Honor Scroll will be presented at a dinner meeting of the chapter, May 18, at the Downtown Athletic Club.

Captured:



the elusive fragrance of the Bulgarian Otto of Rose

OUR "ESSENCE ROSE TYPE B" is an accomplishment of which we are justifiably proud... an extraction of Rose De Mai Absolute which - after years of experimenting - matches in quality and distinction, the much sought-after, now difficult-to-obtain, Bulgarian Otto.

Working samples of "Essence Rose Type B" will gladly be submitted.

P. ROBERTET Inc. • 125 East 23 Street, New York 10, N.Y.
(The New York office of P. Robertet & Cie, Grasse, France)



Joseph Keho, guest speaker, addressing a meeting of the Cosmetic Industry Buyers and Suppliers Association on March 15.

Canada Proposes Excise Tax Reduction

Canadian Finance Minister Douglas Abbott, in his 1949-50 budget speech to Parliament proposed that, in addition to a 32 per cent reduction in income taxes, excise taxes on cosmetics, jewelry, etc., currently placed at 25 to 35 per cent, be reduced to 10 per cent.

NBBMA Closes New York Office

The National Beauty and Barber Manufacturers' Association, 270 Park ave., New York, N.Y., announces the removal of its offices to National Press Building, Washington 4, D.C., under the direction of Jacob Reck, executive vice-president.

Keith Baldwin to Work With Vanillin

The appointment of Keith M. Baldwin as assistant technical director of the Special Markets-Industrial Division of Winthrop-Stearns, Inc., has been announced. Mr. Baldwin will specialize on technical sales service on vanillin.

Smith Victory Enlarges Warehouse Space

Smith Victory Corp., Buffalo, N.Y., has leased 4,000 additional square feet of floor space in the building at 1200 Niagara St., for warehousing perfumes.

USIC Operating Huge Resin Plant

Dedication of what is said to be the largest and most modern resin plant in the world took place last month at Newark, N.J. The new plant, capacity 100,000,000 pounds

annually, is operated by U.S. Industrial Chemicals, Inc., New York, N.Y. which has plants in five other cities in the U.S.

In addition to the new plant, a tank farm consisting of 33 tanks is on the property. They range in capacity from 15,000 to 50,000 gallons, with a combined capacity of 700,000 gallons. The plant itself includes complete warehouse facilities for raw materials and finished goods, and all auxiliary equipment.

Poucher to Standardize Yardley Products

William Arthur Poucher arrived in this country February 9 to stand-



William A. Poucher

ardize color and perfume so that Yardley products will be identical. This operation is to be duplicated wherever Yardley plants are located so there will be absolute standardi-

zation. Mr. Poucher, who has been chief perfumer and research chemist for Yardley of London for the past twenty years, had never previously visited the United States, although he had traveled extensively in other countries.

In addition to his work with Yardley, Mr. Poucher is the author of *Perfumes, Cosmetics and Soaps*. He has, in addition, published many books on mountain photography.

In an interview, Mr. Poucher described some of the means by which Yardley has attempted to overcome rising costs. One of them is a harvesting machine for the gathering of lavender. So far, it has not been successful. Mr. Poucher stated that he foresees no new developments in the balance of the use of essential oils and synthetics. He will remain in this country about ten weeks.

Which Twin Had the Toni—Pfaltz or Milsom?

For the most original idea carried out in costume at a masquerade party on the Verauga returning from Central America with vacationing passengers, Harry E. Pfaltz, the dealer in perfumers' raw materials and William C. Milsom general manager of F. N. Burt Co. were jointly awarded first prize. Both were dressed in identical feminine costumes to resemble twins; and on a large placard was written the pertinent inquiry: "Which one has the Toni?"



Guests and members of the Cosmetic Industry Buyers and Suppliers Association gathered at Tools Shore's Restaurant, March 15, for their regular monthly meeting, were addressed on salesmanship and business leadership by Joseph Keho.

Madras Sanctions Research Institute

The Government of Madras, India, has sanctioned the establishment of an Oil Technological Institute in that Province. K. S. Murti has been placed on special duty with a view to supervising its construction. The Institute will carry on research in essential oils, isolates and concentrates with a view to utilizing the perfume raw materials of the Province.

Hindle Announces Plans

J. L. Hindle, director of Standard Synthetics, Ltd., London, England, visited New York recently for the purpose of renewing contacts. At the time, he announced that he hoped to appoint a sole agent for the United States in the near future.

Snell to Receive SCI Gold Medal

Dr. Foster D. Snell has been named by unanimous vote of the council of the Society of Chemical Industry, London, to receive the society's Gold Medal for 1949. The

medal was first awarded in 1896 and has previously been awarded to only one American. At the time of the award, July 13, Dr. Snell will deliver an address on a phase of surface activity.

National Packaging Week

National Packaging Week will be observed this year May 9-13, the American Management Association has announced. Principal events of the week will be the Packaging Exposition, May 10-13, and the Conference of Packaging, Packing and Shipping, May 10-12. Both will be held in the Municipal Auditorium in Atlantic City, N.J.

John Roosevelt Heads Spray-A-Wave Co.

John A. Roosevelt, youngest son of the late president, has been appointed president of Spray-A-Wave Co. The company is a subsidiary of Lee Pharmacal Co., Chicago, Ill., it has been announced by Raymond E. Lee, head of the firm.

Mr. Roosevelt is to retain his association with the Roosevelt-Good in Beverly Hills.

Rayve Wins Award

The first award in the cosmetics division of the "clinic" held at the Hotel Statler, New York, N.Y., March 9, by *Variety Merchandiser*, went to Rayve Home Permanent Kit and Refill and Rayve Creme Shampoo packages. Honorable Mentions went to Jergens Liquid Cream Shampoo, Nail Brilliance, Plasteen Nail Make-Up and Pond's "Lips" Lipstick.

Purely Personal

WALTER A. CONKLEN has been appointed special Eastern representative of the Wallace Paper Box Corp., according to Wallace Ungenach, president. Mr. Conklin has been in the drug, cosmetic and allied industries for the past 25 years. He is a past president of the Foragers of America, the oldest organization in the toilet goods industry, a member of the Chemical Salesmen's organization, a charter member of the BIMS, and a member of the Draft Board of Yonkers, N.Y.

Quality * * *

METAL CONTAINERS and CLOSURES

by

BRIDGEPORT

Vanities

Jar Caps

Bottle Caps

Dry and Paste Rouge Cases

Lipstick Containers—Swivel, Slide, Automatic

Powder Boxes

★ *Perfume Vial Cases and Caps*

Lip Brushes

Drawn Talc Containers

and

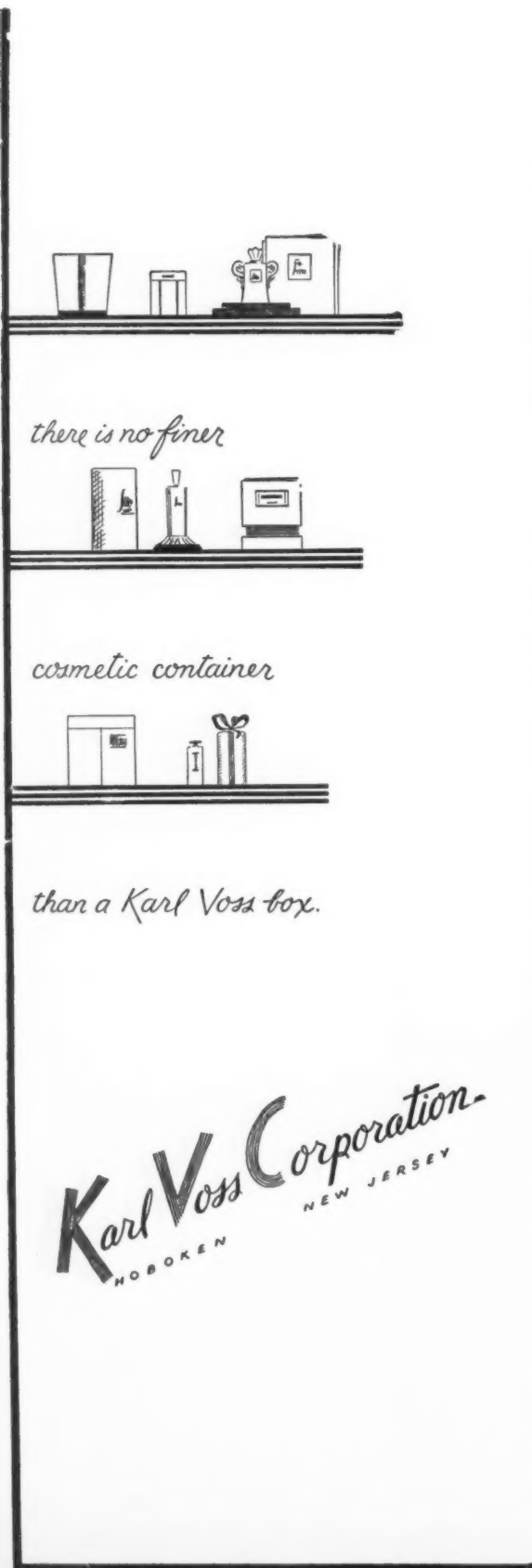
Other Special Metal Products for the Cosmetic Industry

THE BRIDGEPORT METAL GOODS MFG. CO.

BRIDGEPORT

Established 1909

CONN.



there is no finer

cosmetic container

than a Karl Voss box.

Karl Voss Corporation
 HOBOKEN NEW JERSEY

AMBRAROME
absolu

the world renown
FIXATIVE & ODOR CATALYST
 and other specialties of

SYNAROME
S A R L au Capital de 1000 000 de Francs

LABORATOIRES SYNAROME
 Asnieres (Seine)

can now be obtained from

BUSH AROMATICS
INC.
136 Liberty Street
New York City

SOLE AGENTS

Crime Photograph is being sponsored by THE TONI CO.

LEVER BROTHERS CO. is sponsoring the program Aunt Jenny.

DR. A. T. FRASCATI, president of the American Society of Perfumers is spending a month in Arizona after which he will go to California on a well earned vacation.

FRANK J. M. MILES is back at his home in Rhinebeck, N.Y. after an extended vacation in California where he visited many of his old friends.

FRED J. BEYER, executive vice president of P. R. Dreyer Inc., New York, N.Y. has returned from Florida where he soaked up much sunshine.

ERIC EICHWALD, chief chemist of Arrow Laboratories Inc. New York, N.Y. announces that the company has opened a new factory in New Haven, Conn. which will be devoted exclusively to the manufacture of automotive chemical products. Perfumes and cosmetics will continue to be made in the New York laboratories.

EDGAR S. BELLIS has been elected president of the National

Association of Retail Druggists.

F. W. FITCH CO. has held regional sales meetings in New York, Chicago, Dallas, Los Angeles and Atlanta.

ARTHUR C. GOGARTY has joined S. B. Penick & Co., New York, N.Y., as a special sales representative. Mr. Gogarty is the son of the late B. J. Gogarty who was for many years associated with the company.

HELENA RUBINSTEIN presents a complete complexion color guide in "Complexion Colorama."

Perry Mason is presented by PROCTER & GAMBLE CO.

CHARLES H. GODDARD has been made senior sales representative in the New England territory by Helena Rubinstein.

RETAIL DRUG SALES for the month of January 1949 were 1 per cent over January 1948.

HARRY JOHNSON, sales manager for Kathleen Mary Quinlan, recently took a six-weeks trip to the West Coast.

WALLACE R. McKEE has been made D'Orsay sales representative

for Wisconsin, Minnesota, Iowa, Nebraska, Missouri and Kansas.

CHARLES REVSON recently addressed a gathering of Barnard College students on Women From a Man's Point of View.

LEE BRISTOL has been elected a vice-chairman of the Advertising Council.

JOHN B. BRENNAN has announced his resignation as sales manager of Bourjois and Barbara Gould. Announcement of his future plans will be made within a few weeks.

HELENA RUBINSTEIN, INC., paid a dividend of 25 cents per common share April 1.

ALICE LUCAS has been made sales promotion manager of Prince Matchabelli.

PAUL A. SILADI has become advertising production manager of Shulton, Inc.

HUDNUT SALES CORP. has bought two announcements weekly in the Margaret Arlen program.

SIDNEY KOENIGSBERGER has been appointed the Eastern agent

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Here are the services we bring to work to your advantage: over two generations of skill, experience and imagination applied to the perfection of private label cosmetics; the development of those cosmetics with an eye toward merchandising appeal; concentrated effort to meet your intangible ideas with successful, tangible products.

We are proud to serve our private brand customers to their complete satisfaction. May we work with you toward YOUR success?

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INFORMATION

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for Anatole Robbins.

FRED HAMILTON, sales manager of Tonenia Cosmetics, Beaumont, Texas, is back on the job after having been hospitalized in Hotel Dieu.

GEORGE E. HAMILTON is assistant sales manager of Parfums Evyan.

EVELYN CORPER has become advertising manager of Conti Products Corp.

Elizabeth Arden has appointed ELIZABETH DEMPSTER advertising manager.

Obituary

Dr. A. Reclaire

Dr. A. Reclaire managing director of the Hilversum, Holland, plant of Polak & Shwartz for 20 years prior to his retirement in 1944 died March 1. He was 58 years old.

John Robert Ferrell

John Robert Ferrell, authority on

perfume bases, died March 11 at his home in Toronto, Canada, after an illness of several months, at the age of 58. For the past seven years, Mr. Ferrell was a chemist and salesman with Seeley & Co. (Canada) Ltd. Previously, he headed his own essential oils and extracts business. He was a charter and honorary member of the Canadian Toilet Goods Association. He is survived by his widow, Iris, a daughter Mrs. W. K. Toomer, and a son, John Edgar Ferrell. Mr. Ferrell's son, John Edgar, has just been appointed to the staff of Seeley & Co.

Wanda G. Dusenbery

Wanda G. Dusenbery, widow of Henry G. Dusenbery, formerly associated with Richard Hudnut, died February 25. A private service was held in Montclair, N.J., on February 28.

Herbert H. Harris

Herbert H. Harris, president of Parfums Charbert, Inc., died March 21, after a short illness, at the age of 52. Mr. Harris was also a well-known Broadway producer. During the first

World War, Mr. Harris served as a first lieutenant in France. It was there that he became interested in the manufacture of perfumes and he entered that business upon his return to New York. He founded Parfums Charbert in 1933. He was also a director of the Toilet Goods Association. Surviving are his widow, Mrs. Virginia Stallard Harris; three brothers, Jack T. Harris, Joseph Fields and Herbert Fields; and four sisters, Mrs. Frances White, Mrs. Madeline Fields, Mrs. Frances Friedlander and Mrs. Dorothy Fields Lahm.

Willard H. Dow

Willard H. Dow, president of Dow Chemical Co., Midland, Mich., was killed together with his wife and three other persons when the private plane in which he was flying crashed near London, Ontario, on March 31. He was 52 years of age. Dr. Dow was born in 1897 and was a graduate of the University of Michigan when he went to work in his father's firm. He became a director in 1922, assistant general manager in 1926, and was made Chairman of the Board in 1941. He was a member of many societies.

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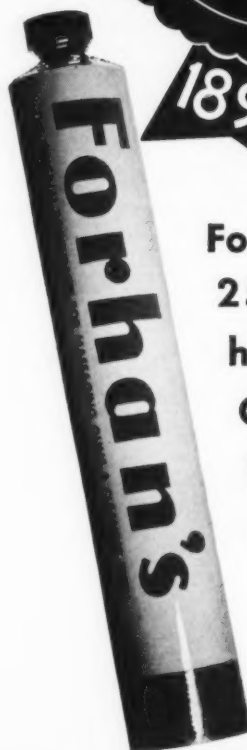
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MARKET REPORT

Price Trends Are Mixed

THE price trend in the raw materials market was mixed over the past month with developments in other commodities serving to cause an unsettled tone in several items which otherwise would have responded to higher levels. Despite the fact that a substantial volume of business had previously been booked in orange oil for forward delivery, the presence of large stocks served to create greater sales pressure thus carrying prices on the Florida and California oils to the lowest levels since the war. Exchange brand of California orange oil remained unchanged but dealers were able to slash their selling schedules rather sharply on oil produced by independent producers.

Basing their predictions upon the usual seasonal upturn in demand that appears at about this time of the year, some observers stated that they did not believe the low prices on orange oil would continue for long. However the future of orange oil largely rests upon the extent of the demand for the article in the months ahead. Unless there is a decided upturn in consumption this year stocks of orange will continue large, a factor that has been responsible for the sharp break in prices. Other major price developments in the raw materials market included sweeping reductions in gum rosins, and a belated drop in natural crude glycerin prices.

The break in gum rosins followed swiftly on the heels of an announcement of substantially lower Government price supports for the naval stores year beginning April first.

The new support price on gum rosin for the new naval stores year beginning April 1 is \$2 per cwt., below the 1948 loan value.

Because of mounting stocks, butyl alcohol and butyl acetate prices were cut 2½ cents per pound. Butyls used as solvents in fats, oils, and in the manufacture of perfume preparations are expected to show a further sharp decline in April. In the same group dibutyl phthalate was cut 1½ cents establishing the carlot price at 32 cents per pound. The downward trend in alcohol prices that started back in November appeared to have been checked and in some quarters there were reports current of an early reversal in the trend. In some instances producers with March-April contracts carrying monthly price adjustment clauses moved to protect themselves against a possible advance by announcing that deliveries against these contracts would be made at market prices prevailing at time of delivery.

The situation in lanolin has firmed appreciably in recent weeks because of a reduced output of degrass from which the finer grades of lanolin are made. The market

was characterized by a strong demand against a limited supply and producers did not appear to be very optimistic regarding any immediate relief in the situation.

The long expected break in glycerin prices came when sales of crude soap lye were made by a non-refiner at 20¢ a pound. Major producers failed to alter their selling schedules on refined material but it is expected that a reduction will be noted in not a great while. On the basis of 20 cents crude, refined prices should range between 33 to 34 cents a pound. Deliveries of synthetic glycerin were moving out in increasing quantities over the past month and according to estimates a total of between two million and two and a half million pounds were shipped to consumers over the past month.

Among the balsams, Peru was firmer at the close of the period under review after showing slight losses earlier in the month. Tolu weakened but prices on copaiba held steady throughout the period reflecting the well maintained level of replacement costs.

Earlier offerings of menthol gradually dried up toward the close of March when shippers in Brazil who had accepted contracts for early March requested postponements as the result of the late mint crop. The new mint crop will also be smaller this year and as a result the primary market is characterized by a strong tone. Spot prices moved upward to \$9.00 to \$9.25 per pound, according to quantity.

Shortages in heavy chemicals have virtually been eliminated and reports were current in the trade of cutbacks in the production of caustic soda and soda ash. Producers' inventories of solid and flake caustic potash have been increasing as the result of some relaxation in demand.

Consuming inquiry for coconut oil was slow with the market displaying a softer tone throughout the period. Offers of copra from the Philippines were scarce and prices displayed a hardening trend. A fairly active export business was noted in tallow and grease at premium prices over domestic schedules. Soapmakers took moderate quantities of tallow. Palm oil production in the Federation of Malaya amounted to 45,257 long tons in 1948, an increase of 16 per cent over the output in 1947. November exports from the Federation and Singapore totaled 5,705 long tons. Malayan production of palm kernels rose nearly 60 per cent last year reaching a total of 8,471 long tons.

In the gum group, arabic remained dull and unsettled with quotations being subject to shading on ten to twenty ton lots. According to figures just completed November imports of gum karaya amounted to 349,678 pounds in contrast to 1,306,637 pounds imported in October.

K R A N I C H S O A P S

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ESSENTIAL OILS								
Almond Bit, per lb.	4.75@	5.00	Cinnamon bark oil	35.00@	43.00	Opopanax	30.00@	37.00
FFPA	4.50@	5.25	Citronella, Ceylon .....	.80@	1.00	Orange, bitter	3.40@	3.85
Sweet True .....	.85@	1.00	Java	1.25@	1.75	Brazilian	1.00@	1.30
Apricot Kernel .....	.50@	.58	Cloves, Zanzibar	1.20@	1.70	Calif., exp. ....	.80@	1.75
Amber, rectified	Nominal		Coriander	32.00@	38.00	Orris Root, abs. (oz.)	135.00@	
Angelica Root	120.00@	175.00	Imitation	8.50@	12.00	Artificial	36.00	Nom'l
Anise, U. S. P. ....	.95@	1.00	Croton	4.80@	5.25	Pennyroyal, Amer.	3.25@	4.10
Aspic (spike) Span.	1.50@	1.75	Cumin	6.25@	6.75	European	2.50@	3.00
Avocado	1.10@	1.50	Dillweed	8.35@	8.80	Peppermint natural	6.75@	7.00
Bay	1.35@	2.50	Erigeron	3.90@	5.00	Redistilled	7.25@	7.60
Bergamot	3.95@	4.15	Eucalyptus .....	.70@	1.00	Petitgrain	2.85@	3.50
Artificial	2.00@	2.75	Fennel, Sweet	3.25@	3.75	Pimento Berry	4.50@	5.50
Birch, sweet	2.50@	7.50	Geranium, Rose, Algerian ..	10.75@	13.75	Pinus Sylvestris	2.50@	2.65
Birchtar, crude	1.15@	1.35	Bourbon	10.25@	12.00	Pumillonia	3.75@	4.25
Birchtar, rectified	4.35@	4.75	Turkish	6.50@	7.85	Rose, Bulgaria (oz.)	20.00@	45.00
Bois de Rose	3.10@	3.50	Ginger	7.35@	8.00	Synthetic, lb.	10.80@	16.00
Cade, U. S. P. ....	.45@	.70	Guaiac (Wood)	2.25@	2.60	Rosemary, Spanish .....	.95@	1.25
Cajeput	2.00@	2.50	Hemlock	2.25@	3.00	Sage, Spanish	1.75@	2.25
Calamus	20.00@	25.00	Juniper Berry	4.50@	5.35	Sage, Dalmation	2.85@	3.35
Camphor "white" dom. ....	.40@	.60	Laurel leaf	12.00@	15.00	Sandalwood, N. F.	13.75@	14.50
Cananga, native	3.00@	3.50	Lavandin	1.70@	2.35	Sassafras, artificial .....	.50@	.75
Rectified	3.15@	4.35	Lavender, French	3.00@	5.35	Snake root	18.75@	20.00
Caraway	5.00@	5.50	Lemon, Calif.	2.55@	2.75	Spearmint	4.00@	4.75
Cardamon	32.00@	36.00	Italian	2.75@	3.00	Thyme, red	2.25@	3.00
Cassia, rectified, U. S. P. ..	2.00@	2.30	Lemongrass	1.60@	2.00	White	2.40@	3.35
Cedar leaf	1.10@	1.25	Limes, distilled	4.25@	4.90	Valarian	27.00@	32.00
U. S. P.	2.00@	2.25	Expressed	6.75@	8.50	Vetivert, Haitian	10.75@	13.00
Cedar wood .....	.45@	.60	Linaloe	3.35@	4.10	Bourbon	11.25@	15.00
Celery	14.00@	16.00	Lovage	95.00	Nom'l	Wintergreen	4.00@	12.00
Chamomile Roman	250.00@		Marjoram	4.60@	6.00	Wormseed	3.25@	3.75
			Neroli, Bigarde P.	240.00@	260.00	Ylang Ylang, Manila	38.00@	43.00
			Petale, extra	130.00@	190.00	Bourbon	9.00@	11.00
			Nutmeg	4.35@	5.00			
			Ocotea Cymbarum55@	.80			
			Olibanum	6.25@	10.50			

(Continued on page 347)

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This exalting agent for fine perfumes has the quality of ageing and improving the industrial alcohol and is an excellent fixative for the most delicate odors.

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(Continued from page 345)

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Grapefruit	65.00@	68.00
Lavender	7.25@	10.00
Lemon	30.00@	38.00
Lime, ex.	70.00@	75.00
Distilled	42.00@	45.00
Orange sweet	85.00@	105.00
Peppermint	13.00@	14.85
Petitgrain	5.50@	7.25
Spearmint	9.00@	12.00

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Acetaphenone	1.50@	1.75
Alcohol C 8	2.40@	3.00
C 9	14.00@	
C 10	2.40@	3.00
C 11	14.50@	
C 12	2.40@	2.85
Aldehyde C 8	11.00@	12.00
C 9	17.50@	19.00
C 10	7.00@	8.50
C 11	19.25@	22.00
C 12	12.50@	16.00
C 14 (Peach so-called)	7.00@	8.75
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Amyl Acetate	.55@	.75
Amyl Butyrate	.85@	1.10
Amyl Cinnamate	4.50@	5.80
Amylcinnamic Aldehyde	2.80@	3.10
Amyl Formate	.95@	1.20
Amyl Phenyl Acetate	3.50@	4.00
Amyl Salicylate	.80@	1.00
Amyl Valerinate	1.75@	2.15
Anethol	.60@	.75
Anisic Aldehyde	2.50@	3.00

Benzophenone	1.25@	1.70
Benzyl Acetate	.60@	.75
Benzyl Alcohol	.70@	.85
Benzyl Benzoate	1.05@	1.20
Benzyl Butyrate	2.00@	2.25
Benzyl Cinnamate	3.60@	4.00
Benzyl Formate	2.00@	2.30
Benzyl-Iso-eugenol	9.00@	9.75
Benzyl Propionate	1.65@	2.15
Benzylidene Acetone	2.25@	2.75
Bromstyrol	5.75@	6.35
Butyl Acetate, normal	.18@	.19
Cinnamic Alcohol	2.80@	3.50
Cinnamic Aldehyde	1.15@	1.35
Cinnamyl Acetate	3.85@	4.90
Cinnamyl Formate	10.00@	13.00
Citral, C. P.	3.50@	3.75
Citronellol	3.40@	4.10
Citronellyl Acetate	3.95@	5.40
Coumarin	3.00@	3.25
Cuminic Aldehyde	7.75@	10.00
Diethylphthalate	.30@	.32
Dimethyl Anthranilate	5.00@	5.75
Ethyl Acetate	.36@	.40
Ethyl Benzoate	.75@	.90
Ethyl Butyrate	.70@	.85
Ethyl Capronate	3.65@	4.25
Ethyl Cinnamate	2.45@	2.80
Ethyl Formate	.65@	.75
Ethyl Propionate	.75@	1.00
Ethyl Salicylate	.85@	1.00
Ethyl Vanillin	6.75@	6.80
Eucalyptol	1.70@	2.25
Eugenol	1.75@	2.50
Geraniol, dom.	3.00@	3.75
Geranyl Acetate	3.15@	3.85
Geranyl Butyrate	5.75@	6.75
Geranyl Formate	6.00@	7.10
Guaiaic Wood Acetate	6.00@	6.75
Heliotropin, dom.	2.80@	3.50
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Indol, C. P.	18.25@	20.00
Ionones		
Beta	7.50@	9.00
Methyl	4.75@	6.80
Iso-borneol	1.30@	1.55
Iso-butyl Acetate	1.00@	1.75
Iso-butyl Benzoate	1.35@	2.50
Iso-butyl Salicylate	2.15@	3.00
Iso-eugenol	3.35@	3.85
Iso-safrol	2.00@	2.80
Linalool	4.25@	7.00
Linalyl, Acetate 90%	4.10@	5.25
70%	3.85@	5.25
Linalyl Benzoate	10.50@	
Linalyl Formate	10.25@	12.25
Linalyl Propionate	9.50@	11.25
Menthol	9.00@	9.25
Methyl Acetophenone	1.35@	1.75
Methyl Anthranilate	2.25@	2.40
Methyl Cinnamate	1.60@	2.25
Methyl Eugenol	4.00@	6.25
Methyl Heptenone	6.25@	7.00
Methyl Heptene Carbonate	45.00@	60.00
Methyl Naphthyl Ketone	3.00@	4.75
Methyl Phenylacetate	1.65@	2.20
Methyl Salicylate	.40@	.45
Musk Ambrette	5.65@	7.10
Ketone	4.65@	5.20
Xylene	1.60@	1.75
Neroline (ethyl ether)	2.00@	2.35
Paracresyl Acetate	2.15@	2.75
Paracresyl Methyl Ether	2.40@	3.00
Paracresyl Phenyl-acetate	4.75@	5.25
Phenylacetaldehyde 50%	2.75@	3.25
100%	4.10@	4.65
Phenylacetic Acid	1.65@	2.25
Phenylethyl Acetate	1.70@	2.50
Phenylethyl Alcohol	1.50@	1.80

(Continued on page 349)

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& Essential Oil Review

April, 1949 347



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(Continued from page 347)

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INDEX TO ADVERTISERS

Alrose Chemical Co.	—	Hazel-Atlas Glass Co.	322	Richford Corp.	344
Alsop Engineering Corp.	346	Heyden Chemical Corp.	—	Ritter & Co., F.	290
American Cholesterol Products, Inc.	346	Horn, John	352	Robert Inc., Henri	—
Aromatic Products, Inc.	284			Robertet, Inc., P.	335
Aroscent, Inc.	—			Roure-Dupont, Inc.	292
Atlas Powder Co.	—	Innis, Speiden & Company	334		
Avon Allied Products, Inc. Facing p. 320		Interstate Color Co.	—	Schimmel & Co., Inc.	269
				Seovill Manufacturing Co.	324
Bopf-Whittam Corp.	349	Katz, Dr. Alexander & Co.—Essential		Sheffield Tube Corp.	294
Bridgeport Metal Goods Mfg. Co. ...	337	Aromatics	290	Solvay Sales Div., Allied Chemical &	
Broder Industries	281	Klinker Mfg. Co., The	339	Dye Corp.	—
Bromund Co., E. A.	270	Kraft Foods Co. Facing p.	321	Standard Cap & Moulding Co.	279
Bush & Co., Inc., W. J.	265, 348	Kranich Soap Co.	344	Standard Specialty & Tube Co.	340
Bush Aromatics, Inc.	338	Krause, Richard M.	—	Stanton Laboratories	—
				Summit Chemical Products Corp. ...	—
California Fruit Growers Exchange .	280	Laning, E. M. Co.	348	Swindell Bros.	—
Carbide & Carbon Chemicals Corp. .	—	Lautier Fils, Inc.	276	Synfleur Scientific Laboratories, Inc.	285
Carr-Lowrey Glass Co.	—	Leeben Chemical Co., Inc.	—	Syntomatic Corp.	—
Chaleyey, Ph., Inc.	342	Leonhard Wax Co., Inc., Theodor .	—		
Chiris Co., Inc., Antoine	282	Lueders & Co., George	266	Tombarel Freres	—
Classified Advertisements	350			Tombarel Products Corp.	—
Consolidated Fruit Jar Co.	351	Mack Molding Co.	341	Turner White Metal Co., Inc.	342
Cosmetics, Inc.	346	Mandel Products Co.	—		
		Maryland Glass Corp.	273		
Danco, Inc., Gerard J.	—	Merck & Co., Inc.	268		
Dodge & Olcott, Inc.	330			Ungerer & Co. Inside Front Cover	
Dow Chemical Co., The		National Aniline Division	—	Union Carbide & Carbon Corp.	—
Inside Back Cover		Naugatuck Aromatics	—	U. S. Industrial Chemicals, Inc.	—
Dreyer, Inc., P. R.	287	Neumann Buslee & Wolfe, Inc.	351		
Drury & Co., Inc., A. C.	—	Norda Essential Oil & Chemical Co.,			
		Inc.	296		
Evans Chemetics, Inc.	275	Northwestern Chemical Co., The ...	—	van Ameringen-Haebler, Inc. ...	288-289
				Vanderbilt Co., Inc., R. T.	—
Fairmount Chemical Co., Inc.	348	Orbis Products Corp.	272	Van Dyk & Co., Inc.	—
Farchan Research Laboratories	—	Owens-Illinois Glass Co.	277	Verley and Company, Albert	—
Felton Chemical Co., Inc.	278			Verona Chemical Co.	271
Fezandie & Sperrle, Inc.	351	Parento, Inc., Compagnie	—	Voss Corporation, Karl	338
Fiermich & Co. Back Cover		Paris International Trade Fair	340		
Fleuroma, Inc.	283	Parsons, M. W.	347	Whittaker, Clark & Daniels, Inc.	—
Forster Co., Rene	345	Penick & Co., S. B.	—	Will & Baumer Candle Co., Inc.	351
French, Benjamin, Inc.	—	Polak & Schwarz, Inc.	267	Wirz, Inc., A. H. Front Cover	
Fritzsche Bros., Inc.					
Insert between 280-281					
Givaudan-Delawanna, Inc.					
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